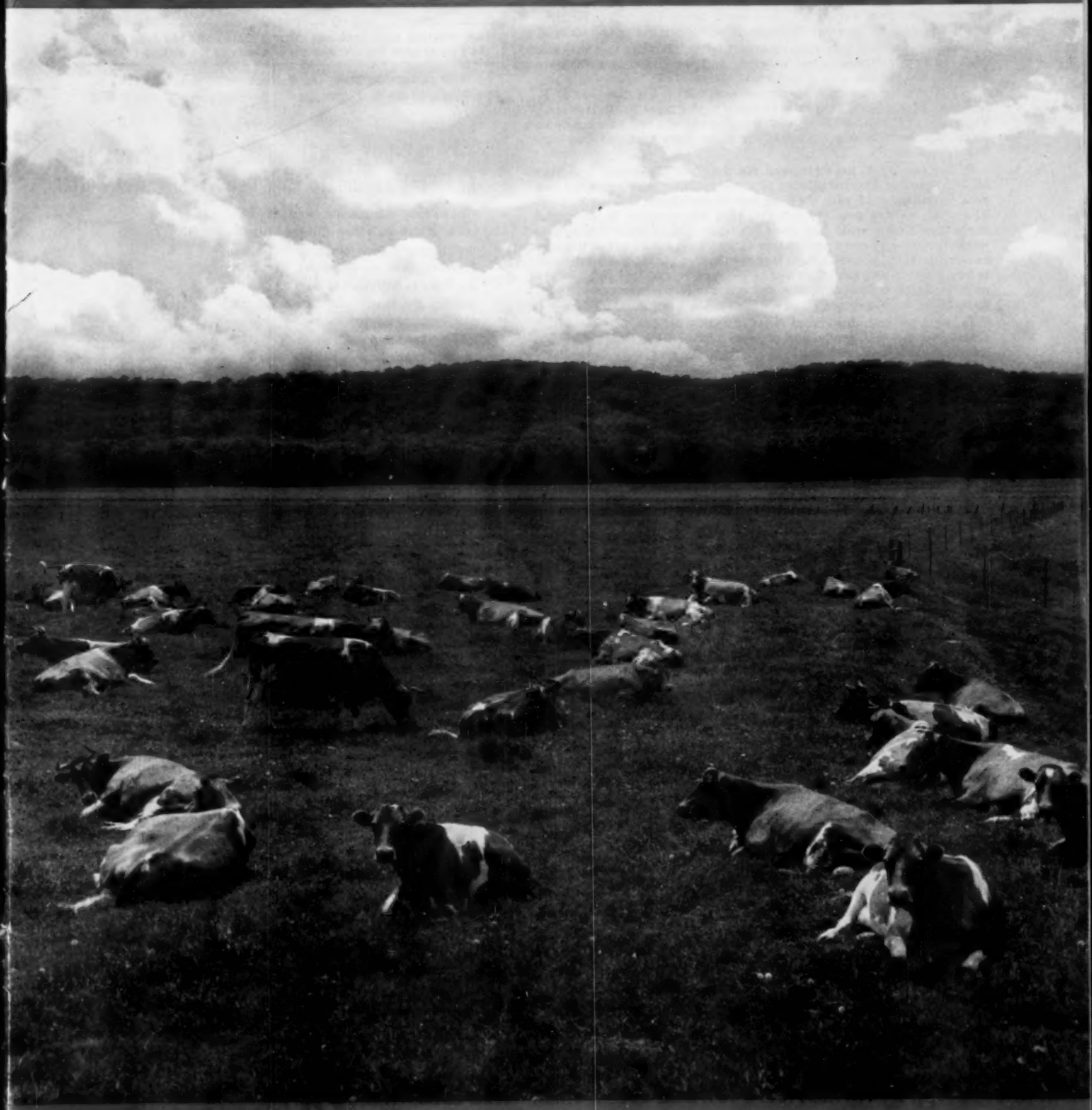
HOARD'S DAIRYMAN

MAY 25, 1958



THE NATIONAL DAIRY FARM MAGAZINE

CHORE-BOY'S Bold, New, Milking Method Is Better and Faster — Meets With Wide Approval!

by DON GOLAY

President, Farmer Feeder Co., Inc., Cambridge City, Indiana

In July, 1957, we announced the Chore-Boy Herringbone Milking System. The response was amazing. It seemed that this was just what dairymen had been waiting for. As a result, many Chore-Boy Herringbone Systems have been installed throughout United States and Canada.

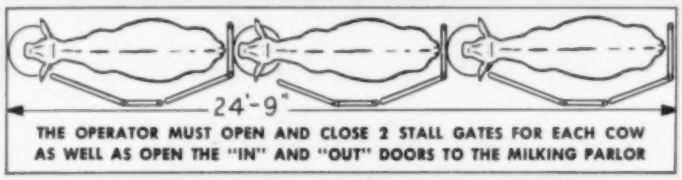
Reports from users have been most gratifying. They say that they can milk two to three times as fast as before, and more important, the cows seem to like this new way of milking. They milk out better, faster and cleaner and many dairymen report increased milk production. Mr. L. E. Maxfield, Lemax Farm, pure bred Holstein producers of North Hartland, Vt., writes — "We have eliminated stripping entirely and have cut down on mastitis considerably. The cows are giving more milk and they sure like the system."

In October, 1957, we announced the complete Chore-Boy One-Man Milk Production Plant consisting of a prefabricated milking parlor and milk room equipped with a Chore-Boy Herringbone Milking System. These plants have gone through this past severe winter in wonderful shape and have proved that the Chore-Boy Ready-Built Building is warmer, drier and more satisfactory in every way than other types of milking parlors. This new Chore-Boy development enables the dairyman to buy a complete system designed for efficient, economical and sanitary milk production. One company and one dealer assumes complete responsibility for proper operation of the entire system.

In 1957 we also introduced the Chore-Boy Roll-O-Measure which determines the milk production of every cow and the Roll-O-Clean, a spherical glass milk releaser.

All of these Chore-Boy developments, combined with Chore-Boy's low vacuum and master pulsation have put Chore-Boy far ahead in better and faster milking.

With a Herringbone System, one man can handle 6 milker units.
In milking a 40 cow herd there are 56 gate operations at each milking.

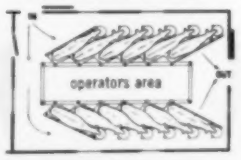


With side-opening stalls, one man can handle 3 milker units.
In milking a 40 cow herd, there are 320 gate operations at each milking.

A CHORE-BOY HERRINGBONE SYSTEM Saves Time And Enables You To Milk Cows Faster And Better

Chore-Boy also manufactures side-opening and walk-thru milking stalls — and they are good stalls. We believe, however, that we would be remiss in our duty to dairymen if we did not emphasize the many advantages of the Herringbone System over other parlor stalls. The diagram above shows that 6 Herringbone stalls will fit into less space than 3 side-opening stalls. This means a saving on the cost of the building and the stalls — and much less walking for the operator. The cows are fed and milked in batches. The Herringbone System is well adapted for small herds as well as large ones.

THE OPERATOR IS ALWAYS WITHIN 3 FEET OF THE NEXT COW'S UDDER.



COWS ARE "ANGLE-PARKED"— THEY ENTER AND LEAVE THE PARLOR IN GROUPS.

Only CHORE-BOY Can Provide Complete HERRINGBONE MILKING SYSTEMS

The Farmer Feeder Company has applied for basic patents on the Chore-Boy Herringbone System. Until these patents are granted, it is possible that other herringbone stalls may appear on the market. It pays to keep in mind that copies are seldom as good as the original. Good engineering has been built into Chore-Boy Herringbone Stalls to assure proper cow positioning and feeding. Remember, Chore-Boy is the only organization that provides the complete system — thus one dealer is responsible for the satisfactory operation of the stalls and the pipeline milking system.

Elmer Helgesen and his son Tom, planned and built their milking system with expansion in mind. The Helgesens are presently milking 6 cows on each side but will be milking 10 cows on each side when the herd is increased from 40 to 140 cows.

Elmer Helgesen, Monticello, Wis., writes as follows:

"Our Cows Are Producing More Milk and Milking Out Faster and Cleaner With Our New CHORE-BOY System!"

"We installed our Chore-Boy Herringbone Milking System February 18, 1958. The cows were completely adjusted to it in 3 days. One man can now milk our present 40 cow herd in 35 minutes. This job formerly required 1½ hours and two men. We would never go back to our old system. Our cows are now milking out faster and cleaner than before. Our blue test is 9 hours compared to 5½ hours with the other system. The automatic auger feeders save us a lot of time and work. Chore-Boy's low-vacuum milking combined with the Herringbone Parlor make a perfect combination. We are proud of our new Chore-Boy System and visitors are always welcome to come and see it."

CHORE-BOY Complete, One-Man, Milk Producing Plant

These buildings are manufactured in sections at the Chore-Boy factory and erected on the job. They are well insulated, have Thermopane windows, electrical ventilation and vacuum door controls. They are warmer, drier, and more economical than many locally constructed parlors.

CHORE-BOY Training Center

Chore-Boy dealers and their service men are given thorough training in the installation of Chore-Boy products. This is part of our program to insure users the best type of service.

Choice dealerships available — We provide sales and service training

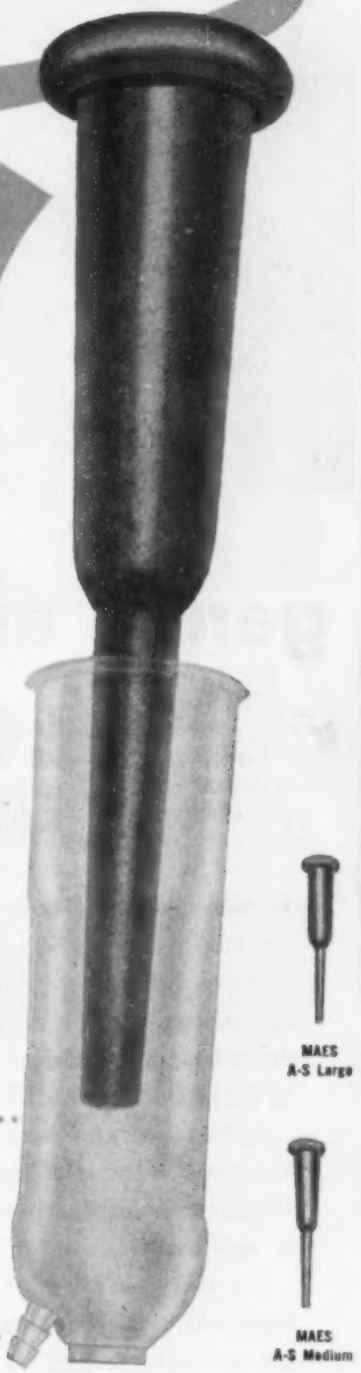
CHORE-BOY LOW-VACUUM MILKING SYSTEMS ®

See Your Dealer or Write Dept. 12

FARMER FEEDER CO., Inc., Cambridge City, Indiana

SURGE USERS! 1 Milking Will Prove . . .

ONLY MAES INFLATIONS CAN MILK YOUR COWS SO WELL!



MAES A-S Large

MAES A-S Medium

CUT MILK PRODUCTION COSTS with MAES INFLATIONS on your Surge Units . . . . . .
THEY MILK BETTER...LAST LONGER... AND COST LESS!

HERE'S WHY MAES *super-soft* inflations are made from the finest brown gum rubber money can buy. They're scientifically designed for fast, clean milking . . . good udder health . . . and backed by 45 years of milking machine know-how.

CONVENIENT, FAST SERVICE Today, Maes inflations are mighty fast travelers. It's so convenient to order with our return envelope, and *we pay the postage both ways.* Just place the order in your own mail box. Your inflations will be back ready for use quicker than you think, because we ship the same day your order is received. Remember too, we have a full line of highest quality repairs for your Surge.

MONEY-BACK GUARANTEE Try MAES inflations on your own cows in your own barn. *One milking will prove* Maes out-perform any inflation on the market. You can't lose! We back this statement with a money-back guarantee.

Bring your Surge milker up-to-date with Maes inflations. You'll save time . . . and cut production costs.

OUR FILES ARE BULGING WITH *unsolicited* LETTERS LIKE THESE...

WORK FINE ON HARD MILKERS
Donald Greenwood, Rt. 1, Baraboo, Wisconsin, writes: "Maes sure work fine, especially on our hard milkers."

ONE MILKING PROVED THEIR QUALITY
Mrs. Wm. Blocher, Rt. 6, Nampa, Idaho, stated: "It took us just one milking to realize the quality of your inflations. I'm recommending MAES to all our neighbors."

MILK CLEANER AND INCREASED PRODUCTION
Raymond Cain of Myrtle Point, Oregon, writes: "I found they milk cleaner and stay on better. Milk *production has increased* on the cows milked with your inflations."

ORDER CAME THROUGH FAST
From Austin, Texas, Mr. W. G. Gresham, writes: "Our orders came through real fast. We think they are the best we've ever used."

IT WILL PAY YOU TO SEND THIS COUPON *NOW!*

MAES MILKERS, INC., Dept. 58-G, Marshall, Michigan

I enclose $_____ for Maes A-S Large_____Maes A-S Medium_____ Inflations, at 85¢ each, for use on my Surge milkers. *(On orders of less than $6.00, add 25c for postage.)*

Name _____

Street (RR) _____

City _____ *State* _____

No. Cows Milked _____ *Breed of Cows* _____ *No. Surge Units* _____

I understand you will send my Maes Inflations postpaid if my order is for $6.00 or over. If the inflations do not satisfy in every respect, I may return them undamaged, within 30 days and receive my money back.

gentle as a lamb...

LO-BAX

Chlorine Bactericides

Lo-Bax chlorine bactericides are gentle and easy to use, yet they assure fast bacteria kills on dairy equipment and milking machine parts. Public Health authorities have long recognized that a chlorine bactericide like Lo-Bax provides dependable, fast, efficient bactericidal action so necessary to the production of high-quality milk.

Lo-Bax is easy and economical to use. It is dry, granular and free-flowing, dissolves quickly and rinses freely. For added convenience, a handy measuring spoon is included in each bottle.

For dairymen's varying needs, Lo-Bax comes in two forms—Lo-Bax Special and LoBax-W (containing a wetting agent). Both are easy on milkers' hands and cows' teats and udders.

Lo-Bax can be a helping hand to high-quality milk and bigger profits for you. You'll find you can't buy better protection at any price.

LO-BAX® is a trademark

OLIN MATHIESON CHEMICAL CORPORATION

LO-BAX

5566

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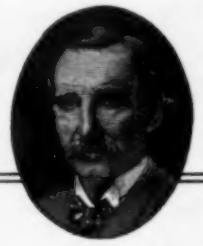
INDUSTRIAL CHEMICALS DIVISION • BALTIMORE 3, MD.

HOARD'S DAIRYMAN

The National Dairy Farm Magazine

Publishers
W. D. Hoard & Sons Co.
Fort Atkinson, Wis.



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Veterinary Editor, DR. E. A. WOELFFER

In This Issue . . .

Volume 103, No. 10
May 25, 1958

Title Page

Do federal or state milk orders act as trade barriers? *T. Graf* 535

Features

How good are your pastures? . . . . . *W. G. Colby* 537
Give birdsfoot trefoil a fair trial . . . . . *E. F. Dietz* 538
Farmers like hay crushers . . . . . *H. D. Bruhn* 540
Summer specials . . . . . *M. Pike* 558
"Farming . . . it's a good life" . . . . . *C. Sargent* 564

Short Articles

Plan record dairy month 534
National Holstein champions 539
If cows could only talk (pasture program) *F. V. Burcalow* 542
What about grass silage? . . . . . *L. A. Moore* 544
Soil sterilants for unwanted weeds . . . *E. C. Spurrier* 545
If a tornado strikes . . . . . *D. C. Gosslee* 552
Stop Johnson grass . . . . . *F. W. Slife* 553
Mothball your corn planter . . . . . *G. E. Pickard* 554
Rakes hay in half the time . . . . . *F. L. Elam* 560
A new disease . . . . . *E. A. Woelffer, D.V.M.* 561
Ways to pipe water . . . . . *G. P. Barrington* 570

Regular Departments

Washington Dairygrams . 529
Opinions and Brickbats . 530
Farm Flashes 536
Editorials 548
Feeding 556
Poultry 557
Dairy Farm Home . . . 558
Patterns 559
Young Dairymen . . 564
Swine 566
Handy Hints 567
Artificial Breeding . . 568
Veterinary 574

COVER PICTURE

Our cover subject is the fine Guernsey herd owned by W. H. Barnes and Sons, New Lisbon, Wisconsin. Last year with 50 cows in milk the D.H.I.A. herd average was 10,003 pounds milk, 497 pounds butterfat. Over the years several state and national production leaders have been developed in this herd.

Barnes has operated the farm 30 years. It consists of 370 acres.

This is a Hoard's Dairyman staff photo.

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The receipt of Hoard's Dairyman is notification that money on subscription has been received. The label on paper will show date to which subscription is paid. Changes of address should reach us three weeks in advance. Include old address.

Unwholesome, immoral and questionable medical advertising is excluded. A sincere effort is made to carry advertising of only reliable people. We will always take it as a favor to be notified promptly whenever any advertiser's dealings with the subscribers are not in good faith or evidence a lack of business honor. Advertisers recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

Hoard's Dairyman is published on the 10th and 25th of each month. Advertising copy for the 10th of the month issue must be received before the 15th of the preceding month. For the 25th of the month issue, copy must be received by the 1st of that month.

Washington Dairygrams

BENSON OPPOSES DAIRY SELF-HELP BILLS IN TESTIMONY BEFORE HOUSE AGRICULTURE COMMITTEE. HAD PREVIOUSLY REFUSED TO TESTIFY BUT YIELDED UNDER COMMITTEE PRESSURE. ARGUED PROGRAM SHOULD NOT BE TURNED OVER TO A BOARD OF DAIRY FARMERS. SAID HE DID NOT EXPECT TO PRESENT A SELF-HELP BILL OF HIS OWN. SELF-HELP PROPONENTS ON COMMITTEE DISAPPOINTED IN THAT THEY WERE NOT PERMITTED TO QUESTION THE SECRETARY EXTENSIVELY.

NAVY OLEO ISSUE FOUGHT IN HOUSE. WOULD HAVE PERMITTED OLEO IN NAVY RATIONS. DAIRY REPRESENTATIVES WON 207 TO 161 ON AMENDMENT PROHIBITING NAVY FROM USING OLEO IF BUTTER IN GOVERNMENT STORAGE.

BRUCELLOSIS FUNDS BOOSTED BY SENATE. VOTED $20 MILLION TO CARRY OUT ERADICATION PROGRAM FOR 1959, A $5-MILLION INCREASE OVER AMOUNT APPROVED EARLIER BY HOUSE.

SCHOOL LUNCH PROGRAM INCREASED BY SENATE. VOTED $125 MILLION FOR NEXT YEAR, $25 MILLION OVER BUDGET REQUEST AND AMOUNT VOTED BY HOUSE.

TRANSPORTATION TAX REPEAL PRESSURE BUILDING UP IN CONGRESS. WHITE HOUSE RECOMMENDED REPEALING PRESENT 3 PER CENT TRANSPORTATION TAX WHICH WOULD RESULT IN MAJOR BENEFITS TO AGRICULTURE AND RAILROADS.

RETAIL PRICES HIGHER IN FIRST QUARTER OF 1958. FARM PRODUCED FOODS AT RETAIL 7 PER CENT ABOVE SAME PERIOD LAST YEAR. MEAT AND MEAT ANIMALS ACCOUNTED FOR MORE THAN ONE-HALF OF INCREASE.

MILK SANITATION ACT WAS SUBJECT OF TWO DAYS OF HEARINGS. WOULD ESTABLISH A UNIFORM CODE OF STANDARDS FOR ALL FLUID MILK. NO ACTION EXPECTED.

★ ★ ★

In YOUR next issue!

LET'S MEET OUR CRITICS WITH FACTS . . . Milk is the target for increasing challenge from medical and health workers. The author tells us we can't sweep criticism under the rug and proposes a constructive course of action.

YOUR SIDE DELIVERY RAKE . . . must be well-adjusted and operated to save the leaves of the hay crop and assure uniform drying. Here are operating tips.

A BATCH DRYING BUILDING . . . that dries hay, grain, and ear corn. It can be used for ear corn storage, too.

ORDERING READY MIXED CONCRETE . . . is easy if you follow the simple instructions provided by the author. Not only quantity but, more important, quality too are determined by your instructions.

AND MANY MORE . . .

Easy TO ORDER OR RENEW!

HOARD'S DAIRYMAN
Fort Atkinson, Wisconsin

☐ New
☐ Renewal

I enclose $_____ Please send me Hoard's Dairyman for _____ years.

Name_____ R. F. D._____

P. O._____ State_____

SPECIALS

3 years $2.00 - 5 years $3.00 (Reg. price 1 year $1.00)

(CANADIAN: 1 Year—$2.00 — FOREIGN: 1 Year—$3.00)

FOR THE LOWEST PRICED SMALL FARM TANKS . . . CHECK CHERRY-BURRELL

Here are the lowest priced, small farm tanks you can find. Two sizes to choose from; both fit easily into even the smallest milkhouse. 90-gallon tank uses less than 5' x 3' floor space; 150-gallon model, less than 6' x 4'. Just level (legs are adjustable), plug in, and you're ready to cool milk—fast. Even when you save only 25¢ per cwt., these tanks will pay for themselves in three years.

$96.00 PUTS THIS TANK IN YOUR MILKHOUSE . . . NOW !

With Cherry-Burrell's new monthly milk-check-deduction finance plan, $96.00 down brings immediate delivery and installation of this 90-gallon direct expansion tank. And that's not all!

- **Cherry-Burrell handles all paper work. You authorize milk check deduction. Dairy sends us check.**
- **You pay only $18.72 per month.**
- **You *pay as you produce.***
- **No credit investigation.**
- **No loan applications.**
- **No dipping into cash.**

Same easy financing terms apply to *all models and sizes* of Cherry-Burrell tanks—the most complete line made today.

For further information, see your local Cherry-Burrell Dealer or clip coupon.

CHERRY-BURRELL CORPORATION H-5812

427 West Randolph Street, Chicago 6, Illinois

Serving the Dairy Industry Since 1869

Please send me literature on your small, cylindrical farm tanks.

Name_____

Town_____

R.F.D._____ State_____

Opinions, Brickbats, Bouquets

These columns are open to the readers of Hoard's Dairyman for the expression of their opinion on any subject, whether radical or conservative, destructive or constructive, wise or foolish, critical or commendatory. Hoard's Dairyman assumes no responsibility for opinions expressed.

"All the mail I need"

One day, while returning from the mail box, my husband asked if there was any mail for him. I replied, "No, only the Hoard's Dairyman."

And his reply, "That's all the mail I need."

Thought you might like to know that he considers your magazine the only worth-while one of all he subscribes to.

Our check for a five-year renewal is enclosed.

Michigan MRS. GEORGE M. SIVEC

Inflation hurts us all

Whenever we have a wage increase we also automatically have a price increase. Who loses? The consumers do! And who are the consumers? Why — you and I!

Wisconsin ED BATZNER

Get factory job

It is my opinion that this page should be discontinued. One writer has no bathroom or water heater. Another says he cannot get along with women but, apparently, needs their help at milking time and feeding the calves and cows.

If I may say, most of them are marginal farmers (?) and they should get a factory job with guaranteed wages, 2½-time holiday pay, unemployment pay, strike benefits, free turkey at Thanksgiving and Christmas — and quit adding to the farm surplus.

Ohio JOSEPH ZIMMERMAN

Clawing like animals

Americans have become specialists or specialist-minded. If we are sick, we call the doctor; if a cow is off feed, we call the veterinarian; and if our car doesn't run right, we take it to a mechanic. That may be all right to a certain extent, but how often do we check to see if the veterinarian has done the right thing or the mechanic has fixed our car?

Americans cannot think for themselves any more. If there is a disaster of any kind, we run to the government. If farmers do not get as much for their produce as they think they should, they call on the government. The government comes up with price support, acreage control, soil bank, and so on.

The city people run to the government with their troubles too. They want flood control, recreation areas; this, that, and the other thing.

Now our taxes are at an all-time high and we groan about that. What can we expect? Someone has to foot the bill and there is no one else but us.

We have become dependent, not only on the government but also on each other. That might seem like a good thing, but the trouble is we have become afraid of or a little jealous of each other.

The shop worker is afraid management is making too much and the cost of living is too high. Transportation wants its big cut, and farmers think they do not get enough for their produce. Everyone seems to think everybody else is better off. Instead of a nation working together, we are against each other, clawing away like wild animals.

If we are to remain a great nation, we will have to change our point of view. Instead of thinking of ourselves, we will have to work for the good of all. One thing sure, if Uncle Sam runs out of money — and he's bound to some day — what will we do?

Pennsylvania LUKE SHERLOCK

Interest with unions

Sometimes I feel we farmers are like a pair of small boys being urged to fight by the big boys. Everyone is urging us to cut each other's throat. Do they do it? Oh, no! They have laws passed to discourage the young man who might compete with them, or the work week is shortened, or they simply shut the plant down.

Rugged individualism is all right for the dumb farmer but not for the smart guys.

There are a lot of farm programs for the landowner but none for the man who does the work. Our relatives in town hear how much money we get from the treasury. If they would look up the facts, they would learn that a few concerns receive extremely big checks. The majority of us hardly get enough to make it pay to "monkey with."

I think if the farmer who wants to could get a job at decent pay, we will never have it too hard on the farm. We would quit farming if the prices would go too low compared to the wages on the job.

I am beginning to wonder if our interests aren't more with the union than most of us have thought in the past.

Minnesota GEORGE KLATTE

"Solace" in India

Though the climate, the cattle, the industry, land, and so forth are very different here in India, the articles and other things in your journal give a very correct approach to all problems that confront a keen dairyman.

More than anything else, the few lines you publish on the editorial page from what W. D. Hoard said some long years back gives me more inspiration and solace to my mind in my struggle to establish a small but a fine dairy farm all these seven years. More often I wish I was in your country to start a dairy farm.

I wish your journal every success, which it very richly deserves.

Madras, India D. SADASIVAM

"Useless male"

I have a large dairy enterprise with latest labor-saving equipment. But after finding most of my herd ruined by careless feeding and milking, and improper general care of the most useful animal on the farm, I have almost come to the conclusion that the egotistical male help around dairy cattle is im-

Stran-Master
all-steel pole-barn

COSTS 30-50% LESS THAN OTHER STEEL FARM BUILDINGS, TAKES ONLY 25% DOWN ON 5-YEAR PLAN

Now, shelter your livestock and machinery in a sturdy, top-quality all-steel pole-barn, sized to fit your exact needs. The firesafe Stran-Master is carefully pre-engineered for erection in a few days. Do it yourself or have dealer's crew erect your Stran-Master. Widths from 12 to 120 feet. Heavy 26-gage galvanized wall- and roof-sheets are extra wide, full length and ribbed for greater strength. You'll be proud of your Stran-Master. It's durable and attractive, yet you need only 25% down payment on Stran-Steel's five-year purchase plan. See your dealer or mail the coupon.

Midwest dairyman says this weather protection for Holsteins has greatly increased milk production. He has a 24' x 96' Stran-Master loafing barn, with one side open. You can own similar size for approximately $545 down. (F.O.B. Factory for do-it-yourself construction.)

Dept. 5-30
STRAN-STEEL CORPORATION
Detroit 29, Michigan • Division of
NATIONAL STEEL CORPORATION

Stran-Steel Corporation, Dept. 5-30
Detroit 29, Michigan

Rush the new Stran-Master catalog. I'm interested in a building approximately _____ ft. x _____ ft. to be used mainly for _____

Name _____ ☐ Student

Address _____ Phone _____

City, State _____

proper, useless, and unprofitable in most every instance for them and everyone concerned. The sooner they seek other employment and let their wives or women folks take charge of the dairy herd the better it will be.

Illinois L. P. RISHEL

Encourage D.H.I.A.

I am firm believer that price is not the real problem of the dairy industry. Prices take care of themselves when the surplus problem is controlled. As long as surplus is a problem, that must be attacked first.

My method of attacking that problem is to put every dairy farm producing milk on the past year's record of sales. In a former issue I remember reading about paying a certain price for 94 per cent of last year's sales and putting the other 6 per cent or over at a lower price. This method would, I believe, encourage more herds to test by D.H.I.A. in their local communities, and do more severe culling. The better the producer, the more the profit.

Every day I hear of cows testing 1.8 per cent; also 2.1 per cent. Good pasture is no excuse for these tests, but the cows causing these herd tests are the ones causing the surplus. Only one way to cull, and that is to join D.H.I.A., not for just a year but be quality-minded every day and stay in the harness. Every day strive to put in action ideals of management for more profit.

With increased population and everyone's contribution toward A. D. A., that is doing a tremendous job of selling through advertising, if we would find some definite method of controlling our surplus, our price problem would be the easiest task for our dairy leaders.

Kansas CLARENCE D. BEAT

California relief

I have been a reader of Hoard's Dairyman for 25 years and think it is clean and good reading.

When I lived in Bellflower, Calif., (Los Angeles County) I saw several signboards that read "relief milker." They got more money than the regular milker. Sometimes they would milk one or two days or more. So, I got one of those boards and was busy all the time from one day to one month.

Oregon E. ZIMMERMAN

Best if he retires

I know plenty of people who are interested in starting a new business, but I believe there are few of the right kind of men in the world who would be able to handle the "customized milking" suggested by Thorald Anderson.

While many men are able to do their own milking, few would be able to satisfy a dozen dairymen under one milking system. I agree 100 per cent; it would be much like feeding steers, but who would want to feed steers all his life?

As far as I am concerned, milking is, by far, the most interesting job around the dairy farm. It gives you time to relax and take it easy for an hour or so. Once the time comes when someone will drive in the lane and do my milking I'll quit dairying at once.

Just imagine a bunch of noisy men coming in to milk a herd of good cows! There would be ud-

(Continued on next page)

GOOD RESULTS

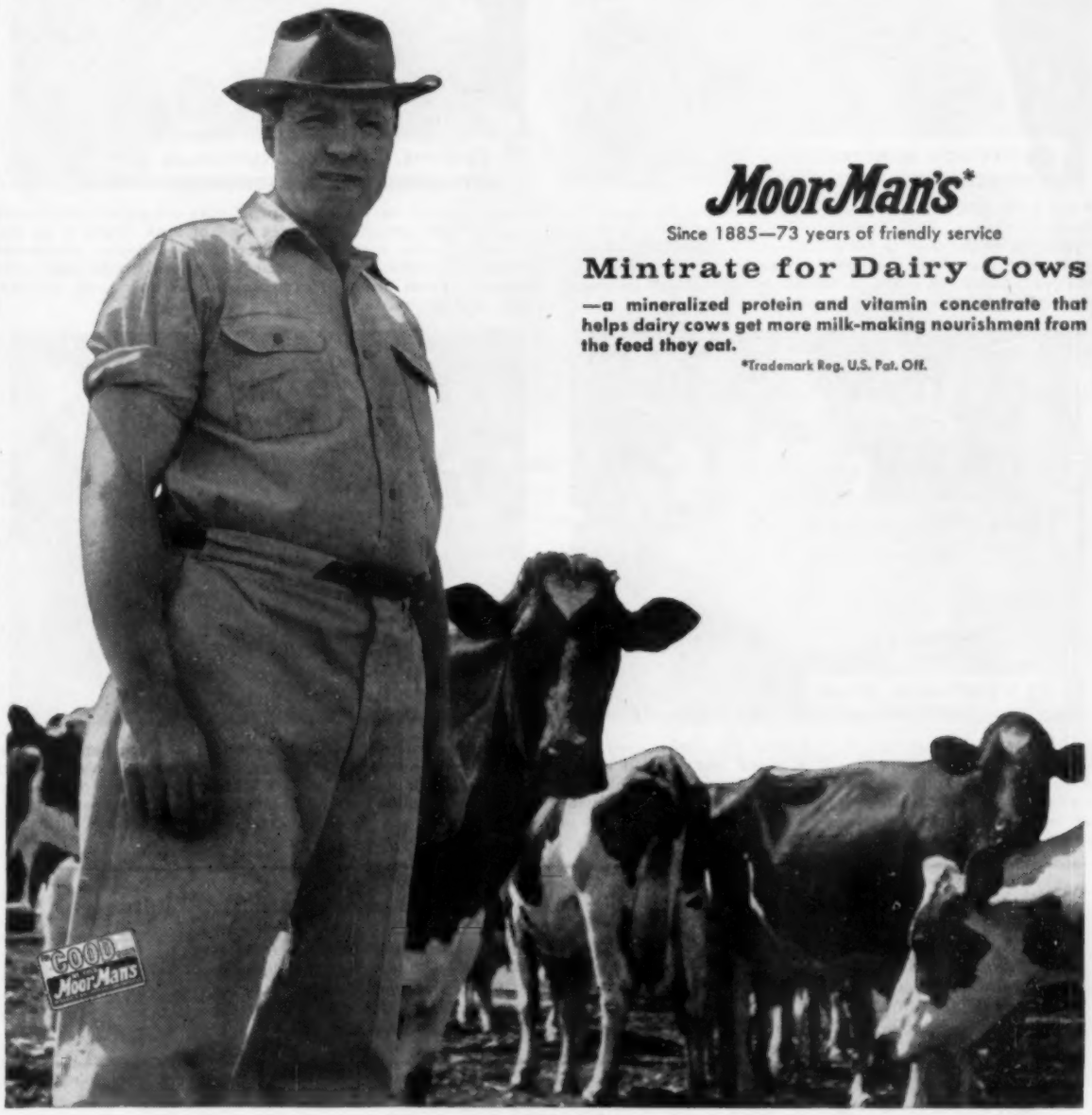
—as reported by Ronald M. Paddock, Lake County, Illinois

"My feed records prove that I make more money with MoorMan's Mintrate* for Dairy Cows."

"I belong to the Illinois Farm Bureau Farm Management Service. The books are audited through the University of Illinois. And the facts prove it makes sense to feed MoorMan's."

"Last year my return over feed cost was $356.00 per cow. That's what I call good results. My 44 cow herd produced an average of 13,385 pounds of milk and 491 pounds of butterfat. I fed only MoorMan's Mintrate, my own grain, roughage and pasture. Mintrates are so concentrated my total cash outlay to produce each 100 pounds of milk was only 18⅓c. That's why I *know* it pays me to feed MoorMan's Mintrates."

Like Ronald Paddock you, too, can cut your cash outlay for feed, stimulate annual milk flow and increase your profits, when you add Dairy Cow Mintrate to your grain and roughage ration. For Mintrate is a concentrated blend of rich proteins, necessary minerals and vital vitamins —ingredients that help cows turn a greater percentage of home grown feeds into milk and butterfat. Only a pound of Mintrate a day, fed the year 'round, means more milk at less cost. For greater net profit from *your* herd talk to your MoorMan Man. If he doesn't call soon, write Moorman Mfg. Co., Dept. P85, Quincy, Illinois.



Mr. Paddock believes there are four factors that contribute to profitable dairying. (1) Keep good cows. (2) Practice good management. (3) Feed good roughage, grain and MoorMan's Mintrate. (4) Keep accurate farm records. He is President of the Wauconda Pure Milk Association; Director of the Wauconda National Bank; Past President of the Lake County Farm Bureau; President of the University of Illinois Extension Council for Lake County; 4-H Leader of the Volo Agricultural Club. He has been feeding MoorMan's for 12 years.

MoorMan's*

Since 1885—73 years of friendly service

Mintrate for Dairy Cows

—a mineralized protein and vitamin concentrate that helps dairy cows get more milk-making nourishment from the feed they eat.

*Trademark Reg. U.S. Pat. Off.

(Continued from preceding page)

der trouble, feeding trouble, all kinds of trouble. As for kicking the inspector out of business, Mr. Anderson should have another guess coming.

I feel the man who is too lazy to do his own milking had better get out of the dairy business and make room for men with enough ambition to milk their own herds.

Pennsylvania JOHN M. KING

New Zealand protest

I was interested to read of evidence given before the Boggs subcommittee of the House Ways and Means Committee by P. B. Healy, assistant secretary of National Milk Producers Federation.

I refer particularly to Mr. Healy's reported statement that effective import controls are needed to prevent the dumping of world surpluses in the United States, and that some form of export price adjustment is necessary to permit United States farm products to move into world trade at competitive prices.

While Mr. Healy's skill and enthusiasm in defending the interests of United States dairy farmers must be admired, it seems that on this occasion his advocacy of a worthy cause is based insecurely on a gross contradiction.

First, he referred to the dumping of world surpluses in the United States. Surely Mr. Healy is guilty of a misuse of terms. As far as New Zealand is concerned, we earn our living as a nation by the export of farm products which are sold in world markets without the benefits of government export subsidies.

Our dairy products exports are not "surpluses," but are part of the normal buying and selling of goods in international trade.

Secondly, "dumping" is commonly regarded as export sales at prices far below the cost of production. Mr. Healy may be assured that such small dairy products exports to the United States as New Zealand is permitted by Section 22 quotas are not sold below the cost of production. On the contrary, the price received is profitable, not because of low wages or a low standard of living in New Zealand, but because our dairy industry makes efficient use of natural advantages and modern techniques to produce at comparatively low cost.

Thirdly, we cannot protest too strongly about Mr. Healy's recommendation that some form of export price adjustment is necessary to permit United States farm products to move in world trade at competitive prices. In plain words, Mr. Healy means that the C.C.C. should continue to buy dairy products at the price support level and, subsidized by the American taxpayer, should sell on world markets at a far lower level.

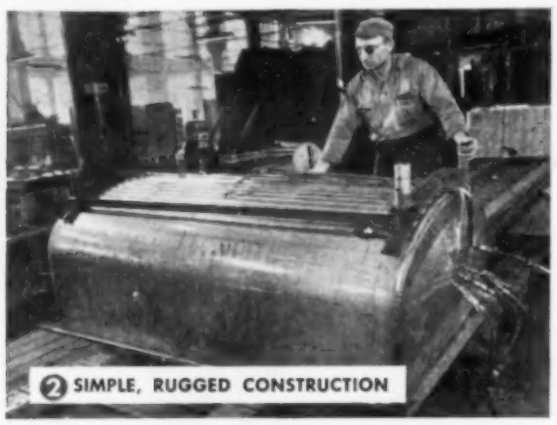
This is a classic example of dumping and carries with it all the probabilities of world market disruption (some of which have already happened) implicit in this unfair form of trading, which is so far removed from normal American ideas of business competition. This, in plain terms, is exporting an American problem onto the shoulders of other countries.

These thoughts do not reflect a lack of appreciation of any difficulties which may be facing American dairy farmers at the present time. However, we feel that there is a lack of general understanding within the United States of the effect of the export dumping of C.C.C.-owned dairy surpluses on the economy of an allied nation.

D. W. WOODWARD
Commercial Counsellor
New Zealand Embassy
Washington, D. C.

FIVE REASONS WHY NO OTHER BULK MILK COOLER CAN MATCH SUNSET'S RECORD FOR LOW COST, TROUBLE-FREE SERVICE

Sunset Bulk Milk Coolers are manufactured on the assembly line of Whirlpool Corporation, world-famous makers of refrigeration equipment. Quality is carefully controlled. Above, evaporator plates are pressure tested with four times the maximum operating pressure. Similar tests are made on every construction feature of each cooler.



Sunset Coolers can't warp or sag. Entire weight of cooler rests upon saddle, attached to inner wall of tank. There is no distortion if outer shell is damaged. Simple design eliminates pumps and other moving parts that cause trouble on other coolers. "Extra Strength" construction assures long, trouble-free cooler life.

Thick Fiberglass insulation is laid over the entire liner. The outer stainless steel shell is put in place and welded to the liner. Evaporator plates, lines, and insulation are sealed in forever . . . insulation stays bone dry. There is no chance for rust or corrosion to start on inside walls. Insulation works at top efficiency.

Every precaution is taken to be sure that each Sunset Cooler is mechanically perfect. Finished coolers are given exhaustive tests and a final check in this laboratory. This is one reason Sunset's operation costs are 50% lower than competing types. Only Sunset has "Positive Refrigeration Control" direct expansion cooling.

5 PLANNING EXPERIENCE

Sunset has had more experience in planning for bulk cooler installations and 100% conversion programs than any other manufacturer. Sunset has helped thousands of dairy farmers—and their haulers and milk plants—make the big switch to bulk. You can take advantage of this experience by writing for a copy of Sunset's new 16 page planning booklet. It covers *milk house planning tips, installation, cost breakdowns,* and *profit potential* for farmers, haulers, and milk plants. Ask for the Sunset Milk Cooler Profit Book.

SUNSET MILK COOLER®

with "POSITIVE REFRIGERANT CONTROL"

SUNSET EQUIPMENT CO.

P.O. BOX 3536J / ST. PAUL 1, MINNESOTA

"Fair, unbiased"

It is now 42 years since we started farming and dairying on our own and subscribed to Hoard's Dairyman. We have always considered it a progressive, advanced college course in dairy husbandry, a continuation of where T. L. Haecker and R. M. Washburn left off when they graduated us from University of Minnesota in 1914.

In these days of strife among farm organizations, we like your impartiality. You give a fair, unbiased exposition of the issues and we can use our own judgment. If that is poor — too bad.

Minnesota ALFRED J. LIND

Put powder in Class I

The dairy farmer's trouble stems from the fact that prevailing marketing systems work 100 per cent to his disadvantage. The farmer wants his product to sell in the form of fluid milk. But every feature of current marketing methods discourages the sale of fluid milk and encourages the sale of manufactured products.

The first cardinal rule of merchandising any quality product is: Don't hold an umbrella up for cheaper substitutes to crawl under and steal your market.

But what happens in the milk industry? Not only does fluid milk suffer competition from a cheaper substitute; namely, powdered milk, but the substitute product is derived from exactly the same raw milk as the quality product.

The farmer is put in the position of running competition to himself. The farmer must sell part of his product at a lower price enabling it to be turned into the cheaper substitute which is ruining the market for his prime product. Ridiculous, but true.

What's the solution? First, put

powdered milk on an equal footing with fluid milk. If the classified price system is maintained, make the Class I price apply to all raw milk which is processed and sold for human consumption as milk, whether powdered or fluid.

Second, either remove the retail price restrictions on fluid milk or subject powdered milk to the same restrictions. Then fluid milk can fight it out with the manufactured milks on natural economic grounds.

Remove all the artificial handicaps, put them against each other, and let the consuming public decide. My bet is on fluid milk.

New Jersey HUGH SAMSON

Defends Farm Bureau

I read Clarence Wilde's and Martin Anderson's letters, and assume they are referring to the American Farm Bureau Federation. I thought it might be best to try and set some thinking straight concerning the Farm Bureau.

In our state, every member is given at least two chances to record his vote on farm policy. First, he can express an opinion on what we call "opinionnaires" that are passed out to every member, and then he has a chance at the county annual meeting to vote on his choice of resolutions.

Somebody mentioned "low prices make surpluses." Do you remember two years ago when hogs were down to 10 cents a pound? I sure do, and I also remember a group of people saying the government should get in and support the hog business because the lower the price, the more they would raise.

Do you recall what really happened? Farmers like myself lost money and cut back hog production. Last summer we had $20 hogs again.

I just wonder what is classified as a "big" farmer? I've heard farmers with 400 acres talk about the big farmers are hurting the little farmers like them. The members of the Farm Bureau have said that the family-sized farm is the farm that can be properly operated by the family without hiring outside labor except at peak times. So this is the type of farm the Farm Bureau has been trying to maintain, whether it be a large Montana ranch or a New Jersey vegetable farm.

Iowa DWIGHT KREBILL

Opposes "double taxation"

In a recent editorial you commented on a letter I wrote to the Cleveland Plain Dealer urging that the government stop buying butter and at long last let the consumers eat the butter that their taxes are paying for.

I claim that a direct subsidy plan, guaranteeing farmers at the start a butter price somewhere between 53 and 60 cents for butter, will:

1. Give farmers a satisfactory return, enough to induce an adequate number to keep on dairying. (The basic idea of any support plan should be to keep farmers from devastatingly low prices, not to insure wealth.)

2. Stop the most ridiculous double taxation our government ever devised, making consumers not only pay a high price for butter but also fork up the taxes to buy the butter away from their own tables.

3. Actually save the government money because that same Department of Agriculture has issued figures to show that this subsidy method (mistakenly called the Brannan Plan) will not cost more money than buying butter outright —and probably less.

I have never heard one single valid argument based on facts to show why this plan is not far better than the silly, wasteful, and ineffective — as proved by time —plan of buying food away from the American consumers. Can you give one? And, by the way, do you have any better plan, or do you want the present system to continue indefinitely?

New York ALBERT LOWENFELS

We do not want the "present system" to continue indefinitely. We have been working for four years to try to get the present ineffective and outmoded program replaced by one which would get the dairy industry out of government, and the government out of the dairy industry. This was the proposal outlined in our issue of February 25, 1957 and which, in essence, has been approved by the National Milk Producers Federation and the National Grange.

Pay taxes, too

In reply to Mrs. Grunenwald's charge that there are "too many taverns" I would point out that conditions today are far better than was true when prohibition was in effect. Those were the days of racketeers and gangsters. In those days, too, no money was paid into the county and state treasuries to help finance our government, including the schools. Today, the taverns of which she complains pay their fair share of taxes. Racketeering and gangsterism are largely of the past.

Pennsylvania LEONARD OGLESBY

Opposes roadside spraying

I have always felt that we who live in the rural areas are privileged to have the roadsides where God's garden grows uncared for by man. Now along comes science, in the form of a man astride a tractor, from which a long sprayer attachment very generously spreads a poisonous film over the roadside, bringing in its wake slow death to any living green thing.

Maybe I'm too much of a sentimentalist, but I have found a joy (and have tried to pass it on to my children) in observing the beauty and bounty of the roadside. We wait for those early harbingers of spring in the ditches, the violets. The wispy horsetails are pretty. In summer, the clovers; in fall, the goldenrod and the skirted seeds dancing forth from milkweed pods.

This spring the children were robbed of a pleasure that no rural child should have taken away, that of picking the small but very sweet wild strawberries that grow along our roadsides. What of the grapevines that yielded a couple of glasses of tangy jelly last fall? And the blackcap bushes that grow within 10 feet of my neighbor's lawn. She had pruned and cared for them early in spring but, because they grew on the roadside, they got sprayed.

If brush is a hazard to drivers on the road, or there are patches of obnoxious weeds, let them be sprayed. But should everything go? Controlled areas are fine.

Wisconsin MRS. ORVILLE HEINZ

YOU CAN CLEAN THIS PULSATOR while others are looking for a screwdriver!*

JUST ONE OF HINMAN'S NEW EASY TO CLEAN FEATURES ON THE 50th ANNIVERSARY

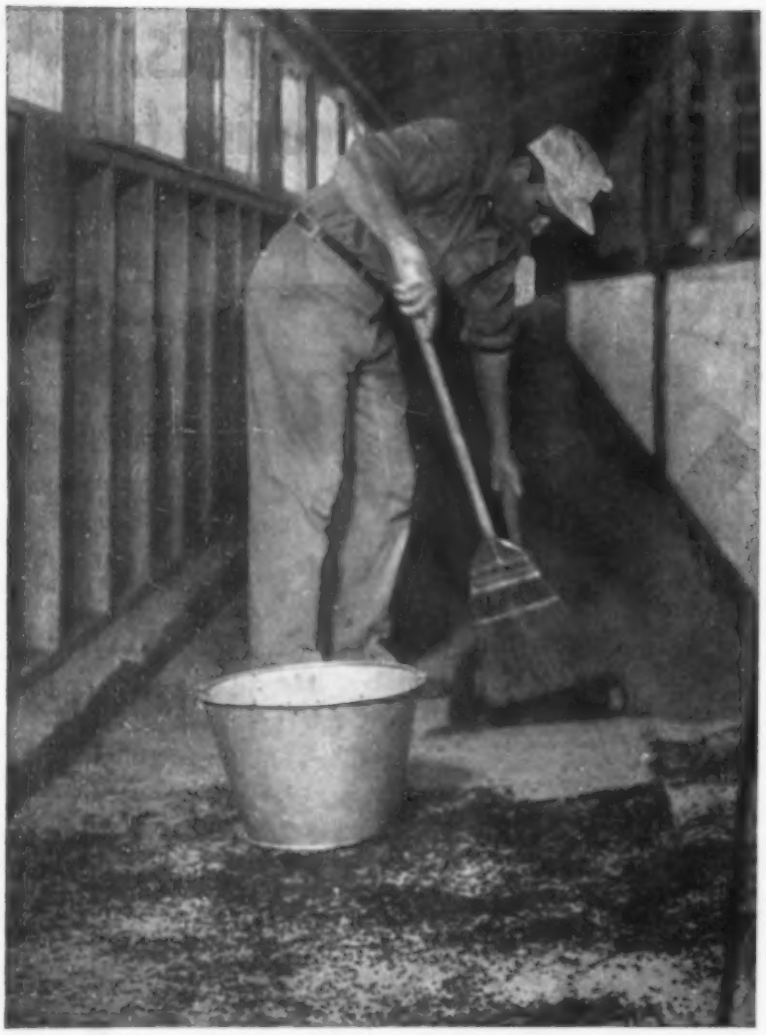
*ILLUSTRATED! The patented Hinman Pulsator which can be taken apart and cleaned without the use of special tools of any kind.

HINMAN HELPS TAKE THE WORK OUT OF MILKING...

Sani-Line has many features engineered to give you a better, safer milker that not only does a good job of milking, but also saves you hours of time and work each week of the year. Just such a feature is the famous "Single Action" large bore pulsator. Operating at 65 strokes per minute on 10 inches of Low Vacuum this big capacity pulsator gives a snappy, *complete* inflation action which is fast milking yet gentle on your cows. In the event of electrical power failure, vacuum can be supplied from your tractor manifold. Remember the new Sani-Line is designed with YOU in mind!

HINMAN MILKING MACHINE CO., INC DEPT. H58 BOX 360, ONEIDA, N.Y.

SEND FOR A COMPLETE FOLDER: Find out why ... SANI-LINE is better for you



Keep a broom and shovel handy if you plan to use Purina Fly Bait this summer. You'll need 'em to sweep up dead flies.

how to kill flies... LEGALLY

New regulations will likely make your fly control program just a little more complicated this summer. Exactly what is approved and what is prohibited?

Our suggestion is that you leave this problem to Purina Research people who developed the following products and program for 1958.

Barns, loafing sheds, milking area: Spray walls and ceilings with Purina Malathion Spray two or three times this summer. Sprinkle Purina Fly Bait on floors, window sills, partitions.

Cows: Spray daily or as needed with Purina Dairy Spray, using electric or hand sprayer. Same spray is ok for use in the milk room.

This simple plan works like a charm. And for extra convenience, your Purina Dealer will gladly deliver your fly season needs along with your next order of Purina Dairy Chows or Concentrates. Phone him now at the Store with the Checkerboard Sign.

FEED PURINA . . .
YOU CAN DEPEND ON THE CHECKERBOARD FOR QUALITY . . . SERVICE

Plan record DAIRY MONTH

Newspapers, magazines, radio, and television will carry dairy farmers' sales promotion messages in record-breaking volume next month.

JUNE Dairy Month, the nation's biggest single food merchandising event, is off and running for 1958. The event, set in motion by an enthusiastic push from 13 sponsoring dairy organizations and 5 major firms cooperating in advertising and promotion, gives promise of setting new records for itself in dairy product sales.

The American Dairy Association, headquarters for the promotion and leader in the advertising and sales promotion effort, has announced that it will devote the most powerful June Dairy Month campaign in its history to the promotion of the "June's Best Buys Are Dairy Foods" theme.

The association's advertising program will employ newspapers, television, and radio to carry the message to consumers.

Recipes in color . . .

Spearheading the campaign will be a precedent-setting, two-page, full-color dairy food advertisement in major metropolitan newspapers. One of the first of its kind, the advertisement will feature eight new dairy food recipe ideas with illustrations of the new dishes emblazoned on a colorful map of the United States. The headline will proclaim "June's Best Buys Are Dairy Foods — All Over America."

Similar advertisements in full-page, four-color format will appear in other market areas. Still other reproductions of the "June's Best Buys" theme will appear in black-and-white advertisements in newspapers across the country.

On television, the American Dairy Association will press the June Dairy Month theme via two performances of the Perry Como Show, June 7 and June 21.

A radio spot commercial campaign will spread the dairy product message throughout the nation over the 187-station NBC radio network. A 20-a-week schedule for a 2-week period beginning June 2 is planned.

In addition to its own advertising, the association is providing free June Dairy Month material to newspapers, dairies, and radio and television stations across the country. Special mats of advertisements have been made available through the association's quarterly advertising and promotion service. For radio and television advertising, complete kits of commercials and public service announcements are available through the American Dairy Association office.

In stores, too . . .

At point-of-purchase, the American Dairy Association will offer a variety of sales-stimulating materials, from dairy case arrows to colorful window banners. Representatives of the association's merchandising staff have made presentations to leading grocery organizations in major market areas.

The advertising and merchandising campaign is being supplemented by a comprehensive publicity effort, spearheaded by recipe features from the association's test kitchen. New recipes and feature stories on all dairy products have been distributed to food editors of the nation's newspapers. A special feature of the food publicity campaign will be a full-color newspaper food page, to be offered to all newspapers capable of printing editorial color material.

To supplement its own advertising and promotion efforts, the American Dairy Association has enlisted the support of five leading manufacturers and food processors: Campbell Soup Company; General Foods Corporation; General Mills, Inc.; Hawaiian Pineapple Company, Ltd.; and Reynolds Metal Company.

Each of these cooperating firms has pledged to schedule June Dairy Month as a major promotion on its own advertising and merchandising calendar. In return, one of the cooperating firm's products will be featured in the American Dairy Association campaign.

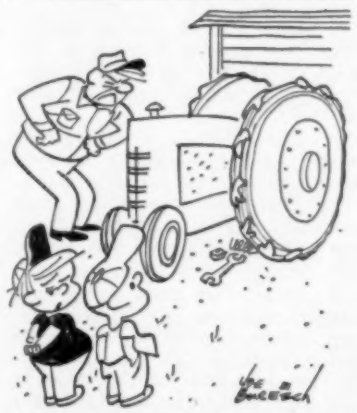
Products to be featured with dairy foods include Campbell's soup, Bisquick, Log Cabin syrup, Jell-O instant pudding, Dole pineapple, and Reynolds aluminum foil.

The June Dairy Month event, now in its 17th year, had its origin as a public relations event in which recognition was sought for the nation's dairy farmers. Since that time, through the advertising efforts of dairymen themselves, it has grown to become one of the major events on food promotion.

Thirteen dairy industry organizations cooperate in the event. They are: American Butter Institute, American Dairy Association, American Dry Milk Institute, Dairy Association Executives, Dairy Industries' Supply Association, Evaporated Milk Association, International Association of Ice Cream Manufacturers, Milk Industry Foundation, National Cheese Institute, National Creameries Association, National Dairy Council, National Milk Producers Federation, and Purebred Dairy Cattle Association.

Each year the cooperating organizations select one of their leaders to serve as chairman of June Dairy Month. This year the honor was awarded to Pius H. Hostetler of Hillsboro, Kans., manager of the Central Kansas Cooperative Creamery Association and president of the National Creameries Association.

Advertising and sales promotion activities of the American Dairy Association are being headed by M. J. Framberger, the organization's general manager.



"I don't know why he calls it a lemon. When it breaks down, he's the one with the sour face!"

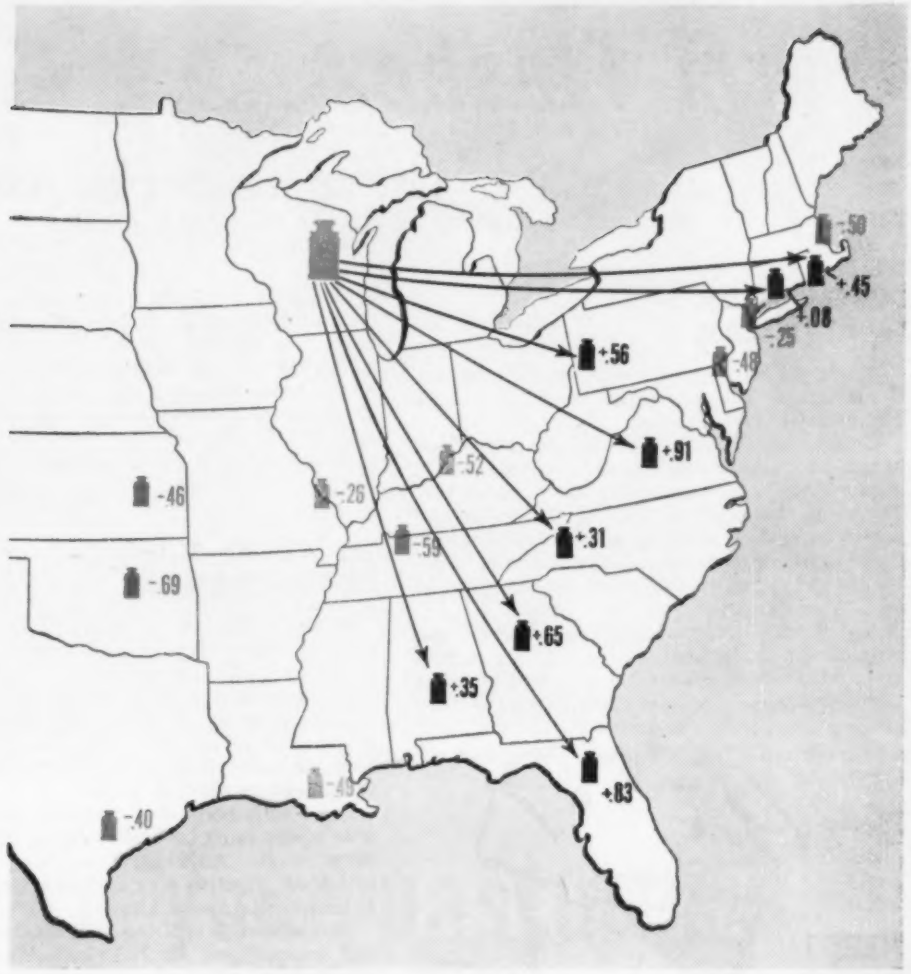
HOARD'S DAIRYMAN
Founded in 1885

Do federal or state milk orders act as . . .

trade barriers?

Transportation costs are our greatest hurdle. The state milk order prices are higher.

by Truman F. Graf



HOW MILK ORDER PRICES COMPARE to Wisconsin price plus handling and transportation costs during a 3-year period. The 10 blue symbols show federal order markets where the average price was **below** by amount indicated; and black can symbols indicate 8 state milk order markets where average price was **above.**

WHEN dairy farmers in the North Central states talk price and marketing problems, the subject of trade barriers invariably arises. As they compare their $3 price to southern and eastern federal and state order prices in the $5 and $6 range they suspect skulduggery and chicanery.

These farmers are led to believe that, if those "trade barriers" could be "broken," they could take over the "high-price" markets and get more for their milk.

As in most controversial issues, many misconceptions as well as truths prevail. Let's take a look at the realities and the prospects of North Central states' milk moving into southern and eastern markets.

About one-third of all milk sold in the United States is marketed under the terms of 68 different federal milk marketing orders. In addition, 16 states have state milk orders which affect producer prices on about 20 billion pounds of milk. Thus, about one-half of the milk sold is marketed under the terms of either federal or state milk orders.

Dairy surplus problems have caused effort to be expended to increase the sales of whole milk and whole milk products. Many people have contended, however, that various dairy trade barriers have made this a difficult task to accomplish. Federal and state milk orders have come under heavy fire. They are charged with maintaining prices to local producers at artificially high prices.

At the same time, it is claimed they restrict the entry of "outside" milk through gimmicks of various types in order to preserve the artificially high-price level. This, many believe, has resulted in lower prices and increased surpluses in milk exporting states.

What are the facts? Are federal and state milk order prices really considerably higher than the prices in surplus areas, plus transportation charges? If so, are these high prices maintained by erecting barriers of one type or another so as to restrict the importation of milk from surplus areas, such as the Midwest?

The number of months during 1955-57 that the Shawano, Wis., Class I price plus marketing costs was above or below the Class I prices in various federal milk order markets is indicated below. In general, these are the most important federal order receiving markets insofar as the surplus Midwest area is concerned.

Also indicated is the average amount that the Wisconsin price plus costs was above or below the receiving market price, as an average, during the three-year period.

A 35 cents handling charge by Wisconsin plants was assumed. Actually, this is considerably lower than many Wisconsin plants charge, and certainly reflects a minimum and not a maximum charge. With the exception of New York, Boston and St. Louis, dealers in the receiving markets receive milk directly from local producers and a plant handling charge is not incurred. Thus, with the exception of these three markets, no handling charge was added to their local Class I price. In the three markets the same 35 cents handling charge as assumed for Wisconsin plants was used.

	No. of months Wis. price plus trucking and handling was below receiving market price.	No. of months Wis. price plus trucking and handling was above receiving market price.	Ave. amount Wis. price plus costs was above receiving market price during period.
Boston	7	29	$ .50
New York	7	29	.25
Philadelphia	1	35	.48
St. Louis	4	32	.26
Wichita	0	36	.46
Louisville	0	36	.52
Memphis	0	36	.59
Tulsa	0	36	.69
New Orleans	1	35	.49
San Antonio	1	35	.40
Total months	21	339	Average $ .46

This table indicates that the Wisconsin price plus marketing costs averaged 46 cents per hundredweight above the federal order receiving market prices during 1955-57.

The Wisconsin price plus costs was competitive with the receiving market price only 6 per cent of the time during the past three years. The other 94 per cent of the time the Wisconsin price plus marketing costs was over the receiving market prices.

Midwest shippers normally cannot compete in most of the importing markets unless they accept less than the usual handling charge, and in some instances substantially less than the Class I prices.

The sad fact of the matter is that, because of location and the high cost of transportation, even the relatively high prices in eastern and southern federal order markets are generally lower than the Midwest price plus the cost of getting the product there.

As a result, the Midwest has had to be pretty much content with shipping supplementary supplies into these federal order markets when the local market was tight.

How can Midwest compete?

What this adds up to is that if Midwest shippers want to be competitive on a year-around basis, they must reduce transportation, handling, and marketing costs. At the present, federal order prices in major receiving markets are lower a great majority of the time than Wisconsin prices plus shipping costs.

Some people maintain that compensatory payment and allocation provisions in federal orders would make it difficult to move milk even if reduced marketing costs permitted lower milk prices on Midwest milk.

This is an important charge. If true, it means that regardless of how efficiently the Midwest markets its milk, sales in federal order markets would be largely restricted because of compensatory payment and allocation type provisions.

What are these provisions? And do they, in fact, have the effect of arbitrarily restricting entry of milk?

Compensatory payment *(Turn to page 546)*

The author, Dr. Graf, is an agricultural economist specializing in dairy marketing problems, the University of Wisconsin.

Farm Flashes . . . .

Seasonal reminders and research notes for the dairyman

DISTEMPER IS FATAL DISEASE

Distemper in dogs is probably the greatest single canine problem in our nation. It is a highly fatal virus disease.

Unless they have recovered from a previous attack or have been succesfully vaccinated, dogs of any age may suffer from distemper. The virus is easily transmitted. It may be airborne, carried on clothing, or on the dog's hair coat. Contaminated premises contain the virus. Fortunately, canine distemper does not spread to cats or humans.

A dog with distemper coughs, wheezes, and breathes with difficulty. You can see a pronounced discharge from his eyes and nose. If the digestive organs are involved, the dog refuses to eat, occasionally vomits, and often shows diarrhea.

Distemper attacks the nervous system in some dogs, causing convulsions or dullness. The senses of smell, sight, and hearing may be damaged.

A vaccination program should be outlined by your veterinarian. It must be started shortly after weaning. Under professional supervision, vaccination can produce permanent immunity from distemper.

SIMAZINE IS APPROVED

On April 23, Simazine was approved by the U. S. Food and Drug Administration. This herbicide is applied at corn planting time as a pre-emergence spray, either as a band treatment over the row, or as an over-all application. The treated weeds will germinate but will fail to grow after two or three days. The chemical is activated by rainfall which distributes it through the soil. It penetrates the weeds through their roots and eventually kills them.

According to agronomists O. C. Lee, Purdue, and Fred Slife, Illinois, the advantages of Simazine are:

1. It gives lasting control for the entire season for all annual grasses and broad-leaved weeds.
2. It has no injurious effect on the operator's face and hands.
3. The chemical is not affected by type of soil or the water content of the soil.
4. It is non-corrosive. Sprayers can be cleaned merely by flushing with water.

The disadvantages are:

1. It is rather expensive, costing approximately $3.80 per pound in 50-pound drums.
2. There is danger of over-dosage; the residual toxicity may be detrimental to the succeeding crops.
3. It does not kill perennial weeds, such as quack grass and Canada thistle.
4. It must be agitated in the barrel. The 50 per cent wettable powder is insoluble and acts very much like sand in water, settling to the bottom if not properly agitated. It is necessary that a return hose be used on small tractor sprayers to agitate the chemical and keep it in solution.

The present recommendation is 4 to 5 pounds of the 50 per cent wettable powder in 20 gallons of water as a broadcast pre-emergence spray, with 1½ to 2 pounds of the 50 per cent wettable powder in 6 gallons of water in a 12-inch band over the row.

TO AVOID SOIL COMPACTION

Constant use of heavy machinery tends to pack certain types of soil into unproductive hardpans or to form hard layers of soil just below plow depth. This reduces a soil's ability to absorb water at the surface and decreases permeation of moisture into the lower levels. In some cases, it also restricts normal root development in planted crops.

Once soils become compacted, the impermeable layers must be broken up by subsoiling or deep tillage. Although some have found this to be an effective way of increasing yields, it is still a hit-or-miss affair.

Prevention is still the best way to deal with soil compaction. R. J. Friant, West Virginia agronomist, offers the following tips:

1. Don't carry on machine operations while the soil is wet. Damage is frequently done shortly after rainy spells when farmers become alarmed about the lateness of the season or growth of weeds in cultivated crops.
2. Build the soil's resistance to compaction by adding to its organic matter content through rotation with grass or pasture crops. Cover crops can be grown in off seasons and turned under as green manure before cultivated crops are planted.
3. Develop a minimum tillage system — tilling the soil as little as possible. In some cases, the ground may be plowed and the soil left to natural processes such as freezing and thawing, or wetting and drying.

IF CONSIDERING PIPELINE MILKING

University of Wisconsin engineers advise dairy farmers, who are considering pipeline milking in a stall barn, to look into the cost of building a whole new milking plant. They say the lower cost of a pipeline installation in the milking room or parlor can go a long way toward paying the cost of a new milking plant, particularly if the herd is quite large.

Such a milking plant would also have the advantages of easier milking, less stooping and bending, less expense in cleaning pipeline.

The engineers say a stall barn with a 4-stall tandem milking room would be practical for herds with 50 or more milk cows. They estimate piping for a cleaned-in-place milking pipeline costs $30 to $35 per cow in a stall barn. That means it would cost $1,500 to $1,750 to install pipelines in a 50-cow barn.

With a milking room, only 3 to 5 stalls would be needed to handle all the cows. Pipeline costs would be only $90 to $175, and cleaning costs would be a few hundred dollars lower each year. Milking units, hoses, pumps, and equipment in the milk house would be additional costs, but they would be about the same with either setup.

Less than 100 Wisconsin farmers now have cleaned-in-place pipeline milkers in stall barns, and only about 10 are using milking parlors in connection with stall barns.

COMPARING CORN AND SORGHUM

Grain sorghum generally contains about 2 per cent more protein, but 1 per cent less fat than corn. Fiber content and B-complex vitamins are about the same for both grains. Storage is the main problem in sorghum due to the harvest season, a time of year when it is hard to get the grain dry enough to store (12 to 13 per cent moisture).

Sorghum produces nearly as rapid gains as corn when fed as ground, threshed grain. In an experiment with cattle, some had a slightly higher dressing percentage and produced more choice carcasses when they were fed head-chop sorghum with legume hay than did corn-fed steers, according to the Kentucky station.

In a wintering ration for beef calves, ground grain sorghums were worth about 93 to 95 per cent of the value of corn. In cattle fattening, the cracked grain sorghum was 90 to 93 per cent of the value of cracked or shelled corn. Gains were nearly the same but the corn-fed lots dressed and graded slightly higher.

HARD TO OVERCOME GARLIC

Every spring it's the same old problem with garlic and wild onion in pastures. You can spray 2,4-D ester at the rate of 1 pound to an acre in 10 to 15 gallons of solution. This spray should be applied when the garlic is 4 to 6 inches tall, but it usually takes three successive years of spraying for complete control.

Be sure you don't spray clover or alfalfa stands with 2,4-D.

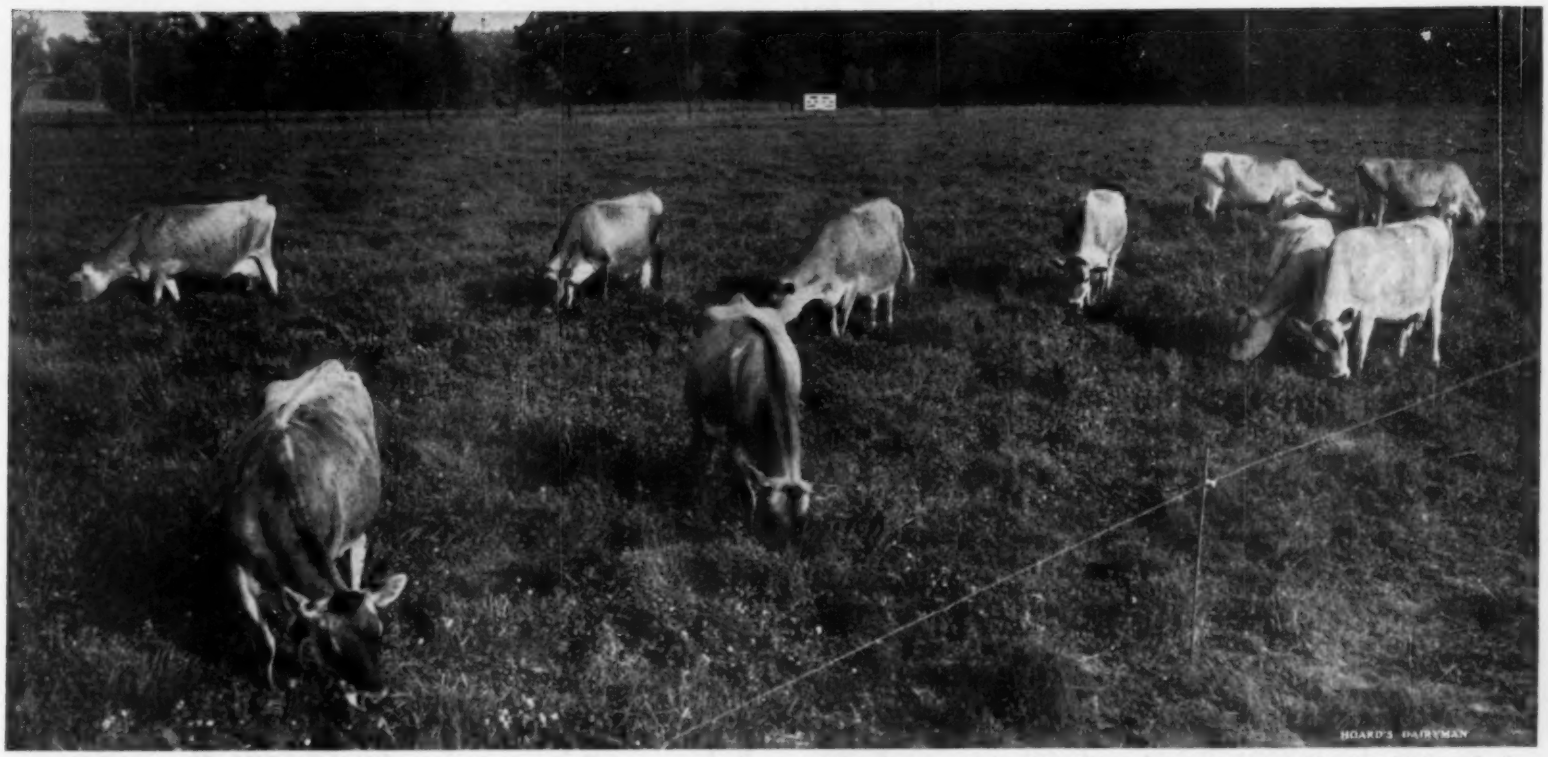
A Rutgers dairy specialist says good grazing management is necessary to use along with a spray program. If possible, young stock and dry cows should be turned into the pastures first in an effort to trim off the weed. Keep a hayrack in the pasture at all times and try to take milk cows off pasture by 11 o'clock in the morning and before 10 o'clock at night.

If a pasture is heavily infested with garlic, do not graze with milk cows until fairly late in the season. It is a good idea to mow the pasture first.

HITCH IMPLEMENTS TO DRAWBAR

Always hitch trailing implements to the drawbar to prevent your tractor from tipping backward. When a tractor tips backward, it often crushes the driver or pins him down. Spilled fuel catching on fire is another danger.

Today, tractors are designed so they will stall or lose traction before they will tip backward, if implements are hitched to the drawbar. However, hitching to any point above the drawbar destroys this safety feature.



EXCELLENT MIXTURE of Ladino clover and smooth brome grass. It is one of the best for high palatability and sustained yields of nutritious feed.

How good are your pastures?

Legume-grass mixtures produce twice as much as permanent bluegrass pasture. You also need to fertilize liberally and manage the grazing.

by Wm. G. Colby

WHAT total, as well as seasonal, yields of pasture feed do you expect during a 160-day grazing season?

What are some of the signs of decreasing production? When should the old sod be broken up, planted to a "cleaning" crop, and then reseeded?

The answers will depend upon the:

1. Grasses and legumes dominating the mixture.
2. Fertility of soil and fertilizing practices.
3. Grazing management practices.

Pastures can be divided into three general types: permanent, semi-permanent, and annual or short-season pastures.

A permanent pasture is just what the name implies. It is permanent. It will continue producing feed year after year if a modest program of restoring soil fertility is followed. In temperate, humid regions, the dominant grass is naturally-occurring white or Dutch clover.

Semi-permanent pastures are intensively managed, heavily fertilized, highly productive pastures with a useful life of at least three years, but usually not longer than five years.

Seedings are relatively simple mixtures involving one or two legumes, usually Ladino clover and sometimes alfalfa, together with one of the more heat-tolerant grasses. Smooth brome grass is widely used, but late-maturing leafy strains of orchard grass and Reed canary grass are showing promise. Straight seedings of one of these grasses, liberally fertilized with high nitrogen fertilizers, also fall into this group.

Annual pastures are summer annuals including Sudan grass (for mid and late summer feed), or winter annuals such as winter rye (for use as a late fall and early spring feed).

Until a few years ago, permanent Kentucky bluegrass pastures were the mainstay of the pasture system wherever this grass prospered. This dark green grass with flat stems and blades with boat-shaped tips has many very fine and valuable characteristics. It is very winter-hardy, strongly competitive with other grasses, and is truly perennial in growth habit.

Blue grass tough . . .

Bluegrass forms a dense, tough sod which withstands heavy tramping and grazing. Lush bluegrass is quite palatable as well as nutritious. There are serious disease and insect pests of bluegrass, but seldom are stands lost from any one of these causes.

While not productive during hot, dry weather, bluegrass is seldom killed even after prolonged periods of drought. It merely goes dormant, subsists, and nutrients are stored in its many underground root stalks or stems. When weather conditions are favorable, it again springs to life.

. . . but goes to sleep in summer

What then are its failings? First, and by far the most important, is its seasonal habit of growth. **More than 50 per cent of its growth is made before the middle of June.** This is why bluegrass is known as "June Grass" in some areas.

Bluegrass demands cool, moist weather. When the weather warms up and soil temperatures rise much above 75 to 80 degrees, rate of growth of bluegrass slows greatly. If soil temperatures rise much higher, growth practically ceases. Therefore, a high peak of production is reached early in the season followed by a low level in mid and in late summer.

During cool, moist weather in early autumn, bluegrass resumes growth and a lesser production peak is reached.

Thus far all attempts to increase summer yields of Kentucky bluegrass have been unsuccessful. Delayed applications of high nitrogen fertilizers, irrigation, and attempts to breed heat-tolerant strains have all been tried but to no avail. What's more, the present outlook is no more promising than it ever was.

Bluegrass is also handicapped because it is primarily a grazing grass. Because of its short, dense habit of growth, it cannot satisfactorily be harvested by machine for either green feed, grass silage, or hay.

Bluegrass pastures, not withstanding their failings, can make a substantial contribution to the pasture program on most dairy farms. Land which is steep, stony, or otherwise difficult to plow and yet will permit the use of a lime and a fertilizer spreader, will provide satisfactory pasture for dry cows and heifers.

Bluegrass is ideal for exercise lots and overnight pastures close to the barns. No common grass will withstand harder grazing or more tramping.

A good pasture in most seasons will produce about 1½ to 2 tons of dry matter per acre, enough to carry almost one animal unit. A modest program of occasional liming plus annual top-dressings of a complete fertilizer will maintain a bluegrass sod almost indefinitely. If clover is present in appreciable amounts, a low nitrogen-high mineral fertilizer is preferable. If clover comes and goes as it usually does, an even ratio fertilizer is more desirable. In Massachusetts, we suggest an application of 400 to 600 pounds of a 10-10-10 fertilizer, or its equivalent, early in the spring.

If appreciable quantities *(Turn to page 562)*

The author is head of the department of agronomy, University of Massachusetts.

Give birdsfoot trefoil a fair trial

LUSH GROWTH of birdsfoot trefoil compares favorably to yields of alfalfa in the north central and northeastern states. It is a fine-stemmed, leafy legume with a deep root system.

Use Empire seed; inoculate well; plant in a good seedbed; and keep weeds down with 2,4-D and dalapon; and above all, have patience.

by Eugene F. Dietz

FOR the past three years, I have been working intensively with Empire birdsfoot trefoil on my dairy farm in Bayfield County, Wisconsin. I have visited every field of trefoil known to me in this area and have studied all the literature I could find on the subject.

Not only have we learned from the experience of others, but we have carried on some original investigations of our own. In these, we have had the advice of A. R. Albert, soils scientist, and John T. Medler, entomologist, both from University of Wisconsin. The result of all this is a thick stand of Empire trefoil on 60 acres of my farm.

Hoard's Dairyman editors have seen my stand of trefoil. They thought you might profit from our firsthand experience.

Birdsfoot trefoil makes a wonderful pasture and hay plant for the north central and northeastern states. Being a perennial, its life is long, and once established in a field, it maintains itself by reseeding.

A field of mature trefoil has a relatively small number of plants per square yard, each individual plant producing a large number of stems from the crown, which in turn divide into many more smaller stems. An isolated Empire trefoil plant may readily become four feet in diameter.

Trefoil can grow on acid soils, and it also can grow on soils that are too wet for alfalfa.

A variety that became native to New York has been selected out as a commercial strain under the name of Empire, and a considerable amount of certified seed re ches the market each year.

Where winters are severe, planting European strains of trefoil is like planting southern alfalfa; one never knows when a cold, open winter will kill out the crop. This planting of cheap European trefoil seed has helped to discourage many farmers from again trying the crop. Empire trefoil has about the same degree of cold resistance as Ranger alfalfa.

Empire is semi-prostrate in growth habit. Consequently, it always has some low stems that escape close grazing. Starting late in the spring, it misses being chewed off by grass-hungry cattle as soon as they get onto early spring pasture.

The feeding value of trefoil is about the same as any of the other legumes, and its annual yield as a pasture plant will depend, of course, on how closely the fields are cropped.

The fact that it is a deep-rooted legume gives it the power to tap plant food reserves that lie deeper in the soil on many farms.

A whole lot has been published about the difficulty of getting a "stand" of birdsfoot trefoil. After observing trefoil under various conditions of planting during the last three years, I have come to the conclusion that most of the published reports on the difficulty of getting a stand are being put out by people who are playing around with it and really do not know a stand when they see one.

To understand trefoil, we must keep in mind the fact that this plant does not act like some of the other quicker-growing legumes.

Patience is needed . . .

Trefoil never makes its mature growth until the second year after planting. During the first year after planting, its stems are shorter, the flowers smaller, and even the seeds are smaller than during the second year. Under the most favorable conditions of growth this is true.

Since it is a shorter plant than alfalfa, although much more dense, it gives the appearance of being stunted the first year after planting. We must observe trefoil in its own right, and not continually compare it with alfalfa, red clover, or alsike clover.

When yield studies are made, it is this density of trefoil that balances the scales. In starting out as a grower of trefoil, we must have patience.

Check before plowing . . .

In the spring following seeding, the little trefoil seedlings often are hard to find. You may be inclined to think the field is a failure and plow it up. With the Empire variety, this is especially true, since the seedlings will not start to put on new growing tissue until sometime after such plants as clover are growing vigorously.

The year of planting may have been rough on the young plants due to shading by grain or weeds and stunting by dry weather. Winter heaving of the little plants may have dried up the crowns. Even though you get down close to the ground, you may not see anything that resembles a trefoil plant. It is under these circumstances that you must have patience and faith.

Empire trefoil can actually regenerate a new crown below the soil surface and start growing again. If the roots are still alive down in the soil, trefoil will come again where none was visible.

This regeneration takes several weeks to accomplish. In the meantime, the field is growing to grass and weeds. Close mowing the first week in June will help trefoil get back into the light. By mid-July the plants will be in bloom. Thus, a new seeding that looked perfectly hopeless in the spring will be thriving by midsummer. I saw this miracle happen on my own farm last summer.

Needs nitrogen-fixing bacteria . . .

To make the picture still worse, the plant, if never grown before, does not have the required inoculating bacteria in the soil. Trefoil is a legume apart from others, and it needs its own specific organism to provide it with nitrogen. Though you may have supplied the seed generously with inoculant, it may take considerable time for these bacteria to reach the lower depths of the soil where the trefoil roots are "at home."

Actually, you may find a scarcity of nodules on the young plants until the middle of the year following seeding. Here again, you must have patience. Trefoil always grows much better in a field that has had trefoil before. These things must be kept in mind when thinking ahead about trefoil.

In 1956 I saw a field seeded to oats and trefoil that had such a heavy growth of oats it had to be cut with a mower. It was completely flat. When the oats were removed, the little trefoil seedlings, whose stems were not much thicker than a horse hair, dried down in the bright sunlight. When fall came, a small rosette of leaves was all one could see where each trefoil plant stood before, showing that it was still alive.

Last spring not much could be seen. Each small rosette of leaves had dwindled during the winter to a faint brown trace. Many crowns had been winter-injured after the snow went off. The field was left, however. A lot of fertilizer had been applied. When the little plants finally took off, they grew rapidly. By mid-July the field was in bloom. A lot of weeds appeared in the field so the crop was cut and put into the silo. Here should be a first class trefoil field this year.

All that is now being published about the difficulty of getting trefoil started was also published 45 years ago about alfalfa. I remember it well. Yet, today farmers do not think it is hard to get a stand of alfalfa.

If you are thinking ahead about birdsfoot trefoil, you can inoculate all of your fields ahead of time. Put inoculated trefoil seed in

The author is a farmer, Bayfield County, Wisconsin.

any legume mixture. Don't be afraid to plant inoculated seed where you are putting alfalfa.

Many farms are loaded with weed seeds that only want the opportunity to grow. Heavy manuring causes a rank growth of both weeds and grain. Any legume seeding suffers under these conditions.

Spraying the field with 2,4-D helps clean up the grain crop, but can destroy usual legume seeding.

Empire trefoil, however, will stand an application of 2,4-D that will kill most broadleaf weeds in a grain crop. In test plots I have used a pint to the acre (40 per cent 2,4-D amine). No trefoil was killed. Grain crops seeded to trefoil and loaded with weeds may quickly be opened up by a spraying. This will increase the grain crop, and let the trefoil have the daylight it needs. Just apply the spray when the grain is six or eight inches tall, when the weeds are still small.

On yellow rocket infested land, it seems to me that trefoil should be the answer for controlling that weed. Spraying can be done late in the fall to kill the rocket. I have found that trefoil will stand several sprayings of 2,4-D during the growing season. It sinks down for awhile, but soon recovers. Do not spray seed-producing trefoil, however, because it causes the blossoms to fall off.

Quack grass can be quite a problem in establishing trefoil. Dalapon, a newly-discovered herbicide, can help a lot. It can be used in lethal doses on the quack without hurting the trefoil.

Dalapon cannot be used to control quack grass in a trefoil-seeded oat field, though, because it will kill the oats. Quack can be controlled after the oats are removed by applying dosages of two pounds per acre at intervals. Several small doses do more good than one heavier one. Dalapon and 2,4-D can be used in the same spray mix in the fall to control both quack and biennial broadleaf weeds at once.

To start a trefoil field without the risk of having it swamped by heavy oats and weeds, plow a piece of sod after the hay is cut, work it down at once to a fine seedbed, and plant the seed immediately. If this is done sometime in July, the results should be satisfactory, since the trefoil plants will have time enough to reach good size by winter.

Where quack grass is a problem, this summer planting method will work. By the time quack can restart, the trefoil is sprouted and growing.

After the land is plowed it is very important that there be no delay in planting. We must conserve every bit of moisture for quick germination of the seed. Using a roller seeder helps keep the moisture coming up to the seedlings. Hard seeds in the trefoil germinate later, and the stand improves as the season advances. Some of the hard seeds carry through to the next year, when they thicken the stand. Four to five pounds of seed, amply inoculated, are sufficient.

Needs fertile soil . . .

If you are now growing a good crop of any of the common legumes such as red clover, alsike, or alfalfa, your land will grow trefoil. If you have tried hard to grow a crop of alfalfa and have failed because of wetness of the soil, by all means, try trefoil. This crop often will grow where alfalfa fails.

With trefoil we can look forward to being able to pasture the field one year and cut hay on it the next.

THE END

National Holstein champions

Katherine Beneke

William Harrison

APERT, blonde 4-H'er who spent her early childhood on the sidewalks of New York has been named National Holstein junior champion girl. Katherine Marie Beneke, 19, of Millerton, N. Y., has developed a herd of 26 registered Holsteins and completed a full quota of home economics projects during her 10 years of 4-H work.

Last year her 10 cows averaged 15,840 pounds of milk, 580 pounds of butterfat. They are financing her education at Cornell University where she is a sophomore in home economics. She is the daughter of Mr. and Mrs. Joachim Beneke, who moved from New York City to a run-down 250-acre farm in Duchess County in 1944. The 4-H projects of Katherine and her two brothers provided the springboard to the present herd of 200 high-producing Holsteins.

During her 4-H career she developed many outstanding show-ring winners, was outstanding in demonstration and showmanship contests, and served as secretary and, later, junior leader of her club. An accomplished seamstress, Katherine personally tailored her entire college wardrobe.

William H. Harrison, 19, is the National Holstein junior champion boy. The son of Mr. and Mrs. L. G. Harrison, Herndon, Va., he began his Holstein career in 1949. Today he has a herd of 32 registered Holsteins valued at well over $11,000. William has completed a total of 102 projects, 83 of them with his dairy cattle.

He has enjoyed equal success in 4-H projects dealing with field and garden crops, pasture improvement, poultry, beef, tractor maintenance, wildlife conservation, and junior leadership.

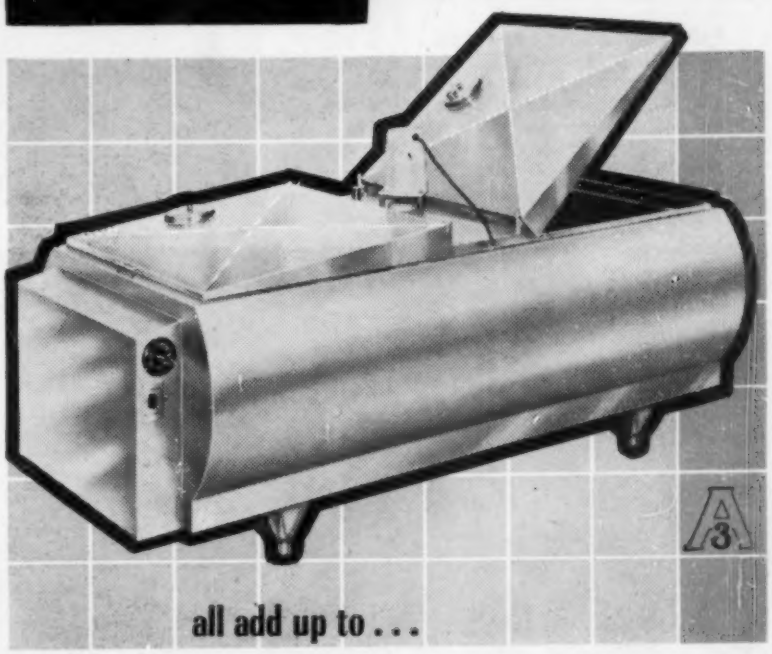
Two years ago he won the Virginia 4-H Dairy Achievement Award and later represented the state at the National 4-H Club Congress. Last year he was national winner of the Dairy Production Records program conducted by the Holstein-Friesian Association of America.

Not only is he an expert and avid showman, he has at one time or another, held every office in his local 4-H club.

Last year, despite excessive drought, his cows averaged 13,000 pounds of milk and 465 pounds of butterfat.

Now a sophomore at Bridgewater College, he plans to become a full-time Holstein breeder after graduation. His cows are financing his education and paying the wages of a man hired to care for them during his college career.

Excellent design
Easy cleaning
Economical operation
Exact calibration
Enduring dependability
Efficient milk handling



all add up to . . .

EM-BEE

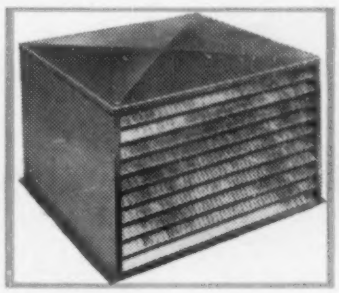
■ Think EM-BEE when you think bulk milk tanks and you'll choose the tank that offers all of the most wanted features.

■ The all new, low EM-BEE offers the ultimate in bulk milk handling efficiency in a range of sizes from 150 through 1500 gallon. On all tanks you have a choice of either all-stainless steel or a mild steel, painted exterior. Self-contained tanks available in sizes from 150 through 300 gallon.

■ All EM-BEE Bulk Milk Tanks employ efficient, economical direct-expansion refrigeration. The unique construction featuring no metal-to-metal contact between the inner liner and the outer jacket is a major factor in the long life and economical operation of the EM-BEE tank, as it results in a minimum of heat gain and a reduction of condensation.

■ Other quality EM-BEE features include a built-in control panel, interchangeable covers, pipeline inlet in strainer hole lid, greaseless agitator motor, measuring stick mounted in bridge, corkboard and fiberglass insulation, and the new low, sturdy, eliptical shape.

Now . . . a new condensing unit shelter for remote installations. EM-BEE offers a prefabricated, inexpensive shelter made from durable galvanized steel that will protect your condensing unit from the weather for years. You will appreciate its neat appearance and the ease with which the top can be removed for quick access to the unit.



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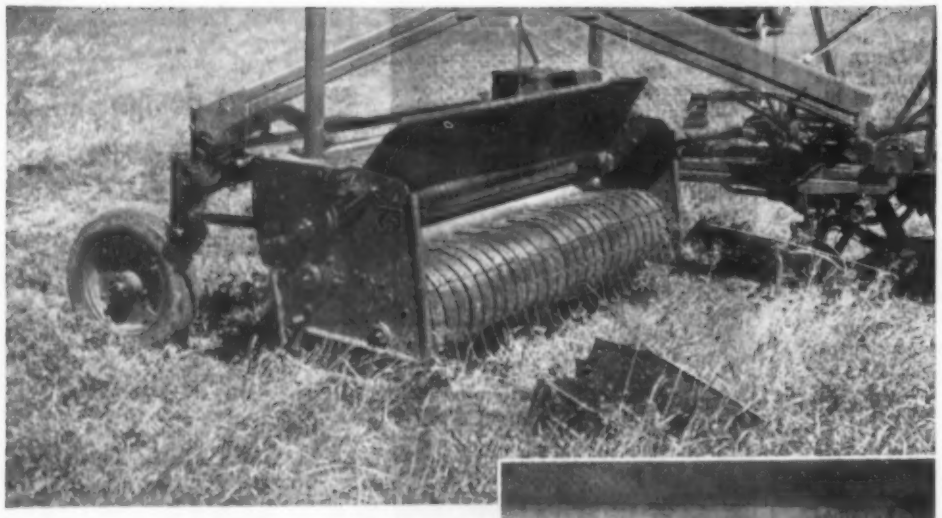


FIRST FORAGE CRUSHER had a mower cutter bar in front of pickup device that fed steel rolls. Though no longer in production, this model introduced practice of crushing. Large weed stem trapped in rolls, as shown at right, would prevent forage from entering and clogging would occur. Improvements in design have reduced this.

LARGE UPPER ROLL, corrugated and of open-type welded steel, in conjunction with small fabricated steel lower roll serve both as the pickup and crushing device on this particular hay conditioner. Bands forming thicker teeth at the ends of the rolls tend to center mating teeth. The wings are used to produce a good separation between the swaths in order to produce a fluffy hay swath in back of machine.

Farmers like HAY CRUSHERS

Although many farmers had trouble with some early models, there are hundreds of enthusiastic users now.

by H. D. Bruhn

SEVERAL years ago about the only people who took forage crushers seriously were a few research workers at state experiment stations. They had conducted enough tests to find that hay could be cured in the field about one day faster if it were crushed at the time it was cut. However, it was only occasionally that a farmer ever heard of a crusher to say nothing about owning one.

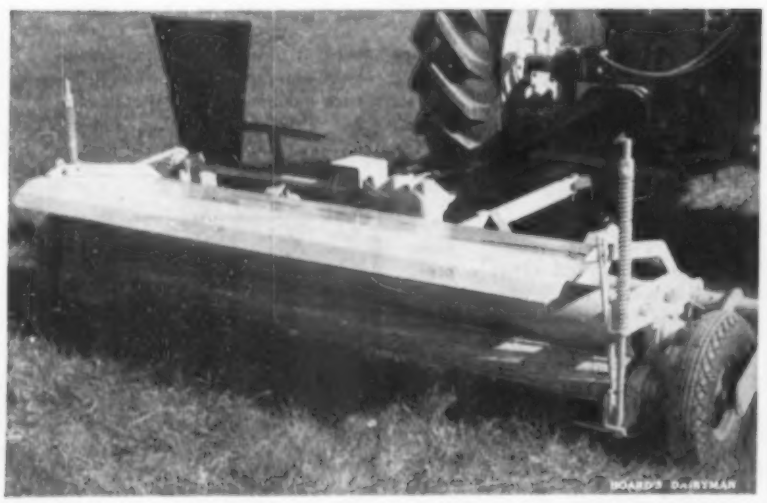
Well, it is a different story now. The number of crushers on farms is still small and there are still a few discouraged farmers. Many farmers had trouble with early models or got off to a bad start and lacked the patience to learn how to use a new machine, but there are many enthusiastic users.

What are these crusher owners saying? "You couldn't buy it for twice what I paid for it, if I couldn't get another." "Best machine I ever had to make good hay." "If I had to get along without one, I would rather have my crusher than my drier." These are just a sample of what you would hear.

What is back of all this enthusiasm over hay crushers? It doesn't seem to be one thing alone, but a combination of circumstances. Probably of most importance is the fact that everyone is becoming more quality conscious, and the big push for quantity at any cost is over. Now we are shooting for economy and efficiency in production.

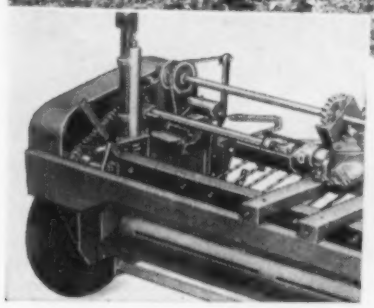
Well, in line with better quality goes early

The author is a professor of agricultural engineering, University of Wisconsin.

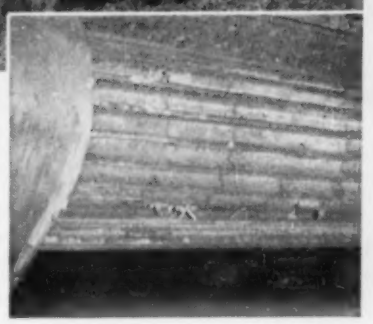


SPIRAL STEEL STRIPS are welded to lower roll as a pickup device and as an aid in feeding. Forage is crushed at close intervals. Provisions are made to mount small gasoline engine to substitute for P.T.O. drive of crushing rolls when machine is towed back of mower.

CRIMPING ROLLS on this machine have built-in timing gear. Hay is crimped every two inches and strikes exploder bar to give fluffy, even distribution for quicker drying. Machine can be hooked to tractor with side-mounted mower or behind tractor with a rear-mounted mower.



MOUNTED MOWER in conditioner frame cuts fresh swath of hay while conditioner operates on swath cut the previous round. The delay from cutting to crushing is usually short. Shallow slots or grooves are cut into the otherwise smooth rolls as an aid to uniform feeding of forage into the crushing rolls on machine.



CORRUGATED UPPER ROLL and small corrugated lower roll serve as combination pickup and crushing device. Operate at full P.T.O. speed. Machine shown had been used to condition 300 acres alfalfa on moderately stony land. No repairs were made; there was no noticeable performance change.

cutting, and at early cutting time we can expect weather with more frequent rains. The crusher is just the machine to help get the hay in the barn before it is damaged by rain.

Then along with better quality goes less leaf loss. Here the crusher helps again. Stems dry slowly; leaves dry fast and tend to shatter before the stems are dry enough to store. Crushed stems dry faster, and as a result there is less leaf shattering.

Less clogging . . .

It takes a little extra time to run a forage crusher either with a mower or as a separate machine, but much of the objection to this is disappearing for several reasons. The stops due to clogging are less frequent than they were with the old machines. Better design has taken care of most of this trouble.

Rolls have been slotted by the manufacturer of one smooth-roll machine to give the rolls more "bite" and thus prevent clogging by large-stemmed weeds.

Other smooth-roll machines are being built with larger rolls and new feeding devices to overcome this difficulty.

Another machine has spiral ridges welded to one roll to make the machine feed and crush at close intervals.

On the corrugated-roll machines, such parts as anti-wrap shields have been developed, and we have learned to run the pickup rolls with all the ground clearance possible and still pick up most of the swath. This prevents the picking up of stones. The operator can open the tractor "wide open" to get a high-roll speed to throw the crushed forage clear of the rolls. This reduces wrapping and fluffs up the swath if the baffle is set right.

Windrowing attachments on crushers, if present, should be used only enough to separate the swaths. In most dairy regions, we should spread the hay out in the sun as much as possible until it is nearly dry enough to store. Windrowing attachments on crushers are used in some western areas to prevent leaf shattering when the crop is light and drying is very fast.

Crush and dry . . .

If you are baling hay, a crusher will do you more good than a barn drier. If you are chopping, it is a toss-up which is best, depending on how to operate. Use both a crusher and a barn drier, if you possibly can.

The question of whether the mower and crusher should be a single unit or two separate machines frequently comes up. If you have plenty of help and tractors and are in a hurry to get a lot of grass "knocked down," then use the mower separately from the crusher.

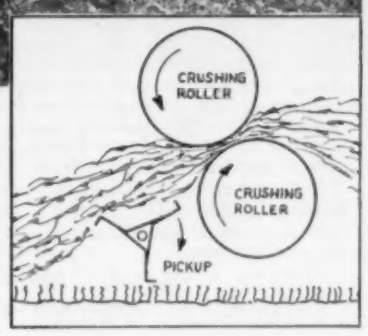
If, on the other hand, you cut a limited amount at one time, have less help, and only one tractor available, use a combination.

Crushing takes a little extra labor any way you look at it, but your chances of getting good hay instead of bleached stems are a lot better when using a crusher.

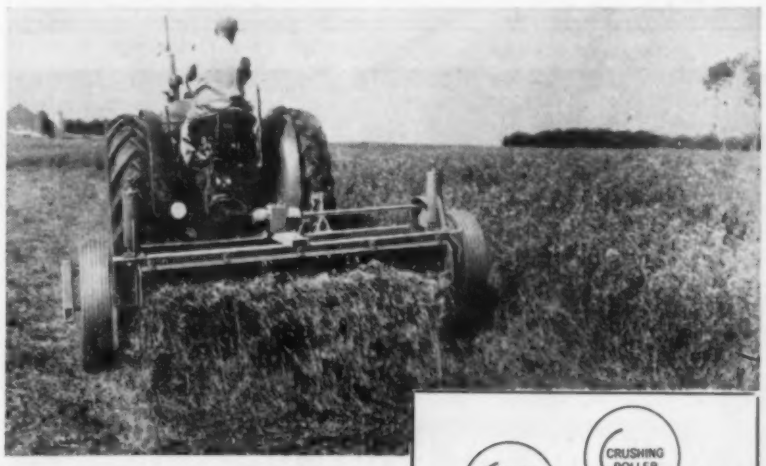
Whether you crush immediately after cutting or wait a while does not usually make a lot of difference. In test work, we ran crushers immediately after cutting, after a 15-minute wait, and after delays of one-half hour, one hour, and two hours. In some tests we crushed immediately and then came back one-half hour later to crush again. We had no trouble with the crushers under any of these conditions.

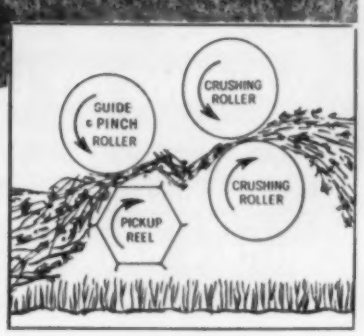
The main disadvantage of a delay in crushing is that you are losing some high-rate drying time which can never be regained. Crushing immediately after cutting and coming back later for a second crushing is all right. This speeds up the drying, but you have to be careful! If you wait too long for the second trip, you may knock off a lot of leaves.

There still is a lot to be learned about field curing of hay. Crushers are helping to improve the quality. There will be many more crushers sold this year, and there will be new makes and models to look at. **THE END**



FRAME AND ROLL DRIVE of this machine is constructed so mower is an integral part of unit. It is equipped with 12-inch-diameter rolls and has a beater-type pickup which rotates against direction of travel and sweeps forage up to feed into rolls. Size of weed stem that will feed through rolls is in proportion to roll diameter.





A COMBINATION of a pickup, feeding, and primary crushing device with a pair of large, smooth rolls for secondary crushing is employed on this machine. Pickup roll runs with a small clearance to guide and pinch roll. Material passing between the two is pinched or crushed at intervals; then fed to smooth rolls for more crushing.

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- No bloat, no prussic acid
- Tremendous forage production
- Perennial—lasts several years
- Easy to plant, grows faster than Sudan
- Grows in any type soil, on irrigated or dry land
- A real money-maker for stockmen

Australians consider it "the best grass in the world"

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8 to 12 tons of hay, 20 tons of ensilage per acre

Grower reports from North Texas and New Mexico show numerous hay crops of 8 to 12 tons per acre (3 cuttings), with some running as high as 14 tons and more on irrigated New Mexico land. When chopped for ensilage, production runs up to 20 tons per acre, with one report as high as 28 tons on irrigated land (2 cuttings). Analysis shows 12.5 to 14.35% protein with Vitamin A content up to 170,000 units per pound. Yearling cattle gained over 2 lbs. per head per day in grazing tests. No known cases of bloat or prussic acid poisoning after frost among thousands of head of cattle and sheep.

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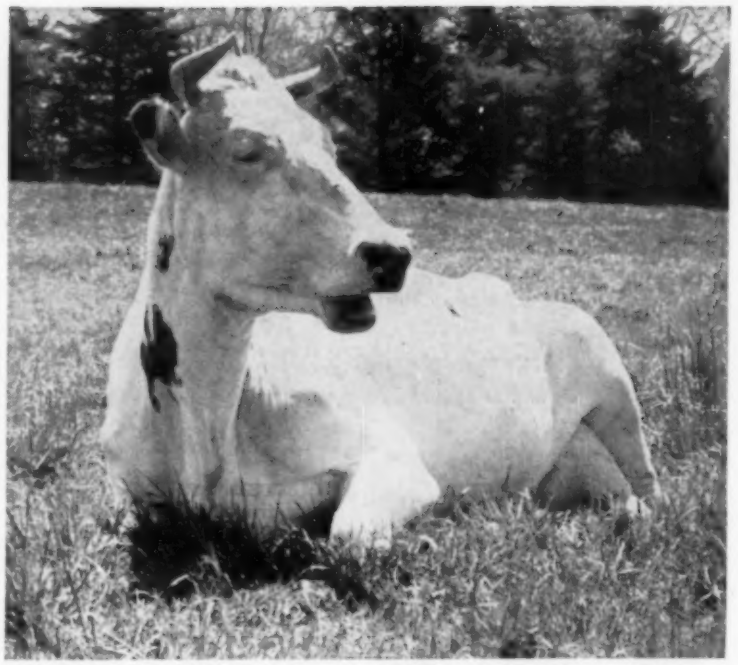

"**RENOVATED PASTURE** tastes mighty good. It doesn't take me a whole day to get a paunch full of brome-alfalfa-Ladino mixture."

If cows could only talk . . .

. . . they might say, "It takes 5 acres to feed me now, but it only would take ¾ of an acre if pasture was renovated.

by F. V. Burcalow

WHAT a lot of guessing, speculating, and even research could be eliminated if old bossy could only talk. She perhaps could tell us what crops she likes best and at what stage of growth she can best utilize them. She perhaps could tell us why:

1. Her production goes up when Ladino appears in her ration,
2. She prefers young, immature grass to luscious-looking alfalfa.
3. Milk flow falls as forage crops mature,
4. She prefers crushed or crimped and mow-cured hay to field-cured hay,
5. She prefers good corn silage to grass silage,
6. Sometimes she does well on oat silage and at other times her production falls and she seems to lose her appetite for it.

She might even tell us why sometimes she bloats on what appears to be A-1 pasture.

If bossy could talk, she probably would have plenty to say to her owner who has lots of acres of poor pasture but not enough consideration for her to improve a few acres for their mutual benefit.

She probably would tell him that during a normal four-months pasture season she needs about 2,400 pounds of T.D.N. If he would provide her with high-quality pasture, she could get 80 to 90 per cent of her total requirements from pasture. If he should ask her how many acres of pasture this would take, she could tell him that on the basis of over 300 pasture records secured in Wisconsin in 1955 and 1956, the average production of T.D.N. per acre of pasture was just slightly under 2,400 pounds. An acre of average pasture would take care of her needs.

However, if the best he had to offer her was so-called woods pasture, it would take 8 to 10 acres and this wouldn't be very high-quality feed. If he had unimproved bluegrass it would take 2½ to 5 acres. If he would renovate this pasture, she would require only about ¾ of an acre for her needs. Or, if he would include some Ladino clover with the alfalfa and brome on some of his good cropland, she could graze all her requirements from ½ to ¾ acre.

These improved pastures on good cropland, when properly managed, will produce as much T.D.N. per acre as 75 to 100 bushels of corn or 150 to 200 bushels of oats per acre.

Many dairy farms still have a considerable acreage of unimproved bluegrass pasture. Renovation of such pasture will greatly increase the carrying capacity, improve the quality of the feed, and also extend the grazing season.

Sure it costs money to bring about these improvements, but with the cost-sharing benefits now available under the Agricultural Stabilization Committee (A. S. C.) program, the out-of-pocket cost is cut about in half. Cost-sharing is available for lime, fertilizer, and seed, as well as seedbed preparation.

The production of many acres of renovated pasture is quite comparable to that of adjoining cropland. When mixtures such as alfalfa, brome grass, and Ladino clover are used, they can be used for hay, grass silage, or green feeding when not needed for pasture. No wonder that the cows on such farms would like to be able to tell their owners, "You can't afford not to renovate; get started at it now."

Another suggestion that cows would like to make to their owners concerns their grazing or lack of grazing management practices. They probably would like to tell them that it is downright silly to

The author is an extension agronomist at the University of Wisconsin.

spend money to get a good pasture established and then not to properly utilize it.

They would tell them that they would prefer to have a small area of fresh, clean pasture offered to them each day instead of being required to graze their feed requirements from a larger area that has been messed up by several days or even weeks of tramping around by large numbers of cattle. They probably would tell him that is one reason why John Doe's cows are giving better production and are requiring less acres per cow.

If old bossy could write her own prescription for her favorite high-quality, low-cost pasture, it probably would contain the following ingredients:

It would have to start with a soil with a high fertility level because she knows better than anyone else that good pastures don't occur on poor soils.

A good pasture soil must have a soil reaction that is close to neutral and it must be well supplied with adequate amounts of nitrogen, phosphate, and potash. In some cases, trace minerals also may be required.

Most soils don't have these requirements naturally but soil tests will indicate what and how much fertilizer is needed. These needs should be satisfied before any seedings are made. Some workers report that a high level of phosphate will greatly reduce the possibility of bloat.

She would like to recommend a seeding mixture that would produce a 50-50 mixture of grasses and legumes that are best for her particular location and conditions. In the North Central States this would mean a mixture of alfalfa, preferably Vernal, brome grass and Ladino clover. These mixtures usually don't provide any grazing the first year, although the nurse crop can be used to advantage for a short period of pasturing just as it begins to head out. Young growth of cereals has a high nutritive value.

Likes mixture young, tender . . .

After this mixture has been established, old bossy likes to have it offered to her in small rations that are fresh, clean, and untrampled. She also would like it young, tender, and succulent such as the prebloom stage of growth. She would like to have this offered to her in such abundance that she doesn't have to spend more than an hour in foraging for a good fill. This is best accomplished by daily strip grazing.

She would be happy with such offerings for at least 120 days a year. To keep her happy on such pasture for 120 days or more presents a real challenge to her owner because such pastures and feed don't just happen; they result from careful planning and continuous attention.

After establishment they may need annual top-dressing with fertilizer. They may need mowing to control weeds. Portions of it may need clipping so as to provide for continuous immature vegetative growth and to prevent some of it from getting too mature. Part of the acreage may need to be harvested for grass silage or hay.

Irrigation facilities also would be very helpful in maintaining a longer productive pasture season.

Old bossy says that if her owner will cooperate in providing good pasture, she will reciprocate by giving a big volume of milk and she promises it will be low-cost production. What could be fairer for bossy and the boss?

Young calves can't eat enough pasture to meet their needs for rapid growth.

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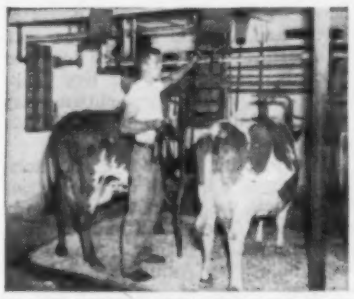

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Of course, you'll want the well-known advantages of a pipeline milking system: no pails to wash, replace, or lug back and forth to the milk house; less time spent milking; less exposure of the milk to flies and dust; lower bacteria counts.

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For the second year in a row, a ZERO T-20 user has won the coveted Quality Milk Award. Miss Shari Lewis of Dakin, Nebraska, is shown making the presentation to Mrs. Prether, daughter of Zero T-20 owner, William Curtner of Greenville, Ohio. "Producing the highest quality milk on my market would have been hard to do without my Zero T-20 bulk tank," says Mr. Curtner.

What about grass silage?

Direct-cut method has created problems. Many are returning to wilting or barn drying the hay crop.

by L. A. Moore

PRIOR to the advent of the direct-cut field chopper, a great deal of grass silage was made by the wilting procedure. Where wilting was not used, ground grains or molasses were added to aid in the preservation of the silage.

Studies conducted at the U.S.-D.A. research center at Beltsville, Maryland, over a five-year period showed that making the hay crop into wilted silage had considerable advantage over making field-cured hay in terms of preservation of harvested feed nutrients. Likewise, making the crop into barn-dried hay was better than field-curing.

In feeding experiments, milking cows fed wilted silage produced as much milk as those fed good-quality, field-cured hay. When the field-cured hay was weather damaged, the wilted silage produced more milk pound for pound of dry matter. On an acre basis, there was considerable advantage for the wilted silage.

During the past 10 years, there has been a marked increase in harvesting hay crops as silage. During the 5-year period, 1948 to 1953, the number of dairy farmers reportedly making grass silage increased from 5 to 21 per cent. The practice now appears to have leveled off at about 22 per cent.

This increase has been attributed to the development of the direct-cut field chopper which cuts down to some extent the hours of labor and machinery use, as well as the desire to overcome weather hazards associated with hay making. As a result, first-cutting hay crops containing as much as 80 per cent water are being ensiled.

The ensiling of such high moisture crops has created difficulties for which we do not have ready answers. These difficulties are poorer quality silages, lowered acceptability by animals, and increased losses of nutrients due to seepage, not to mention the smelly mess seepage creates in the barnyard.

It was noted at one of the Midwest experiment stations where farmers brought in silage samples to be scored that the quality of grass silage has decreased since the advent of the direct-cut field chopper and the harvesting of high moisture hay crops as silage. The lowered quality of silage indicates large nutrient losses, a fact born out by carefully-conducted experimental work.

Seepage losses great . . .

It has been said that the loss of nutrients through seepage is not great. In careful experiments at Beltsville, seepage losses of 6 to 13 per cent of the stored dry matter have been regularly observed with high-moisture crops in tower silos. The seepage loss along with increased fermentation and top spoilage loss can run as high as 30 per cent, or about equal to making field-cured hay under average weather conditions.

Where chemical preservatives are used, carefully-conducted experiments at Beltsville have shown that larger losses and poorer acceptability of the resulting silage by the dairy cow occur than with wilted silage. Chemical preservatives do not prevent seepage losses, but do prevent the development of strong-smelling silage.

Besides these losses, cattle do not seem to consume as much dry matter from the high-moisture silage crops as from wilted silage or hay. Likewise, they will not consume as much dry matter from wilted silage as they will from good-quality hay. However, it is believed that cattle will consume more dry matter as wilted silage than from the average quality of hay found on the dairy farm.

With these difficulties, no wonder farmers are raising rather pointed questions when silage making is discussed. The previous results obtained at Beltsville where the hay crop was harvested as wilted silage cannot be used as an argument for making high-moisture silage in comparison to making hay.

It is believed that because of these difficulties, some farmers will return to the making of wilted silage or go to barn drying the hay crop. Some may delay harvesting the hay crop until it is more mature and lower in moisture. This is not recommended either because of the decreased quality and digestibility of the crop.

In order to make use of the advantages of silage making the limitations of silage making with high-moisture crops and the limitations of silage as a feed should be realized.

Because of the occurrence of inclement weather, it is believed that the first-cutting hay crop should be made into silage, either by wilting or using a preservative with the direct-cut crop. The second and succeeding crops usually can be made into hay, either by field curing or barn drying.

The amount of hay to be fed varies with the moisture content and quality of the silage. We have recommended about 5 pounds of hay for a 1,000-pound cow where wilted silage is fed. Where a direct-cut, high-moisture silage is fed, as much as 10 to 15 pounds of hay should be fed or whatever the animal will consume. This practice will partially overcome one limitation of silage as a feed.

Of course, in any feeding situation, the farmer should watch the condition of the cow and the rate of decline in milk production. If the decline exceeds 8 to 10 per cent per month, the rate of grain feeding may need to be increased.

Some discouragement with silage making has occurred where farmers attempt to use trenches, bunkers, and stacks. This discouragement has resulted quite largely from the use of improper methods.

Results at Beltsville have shown that the losses from bunker and trench silos need not be any larger than in a tower silo provided the silo is constructed properly with at least a concrete floor, with proper packing of chopped silage, and the proper use of a weighted plastic cover.

The author is acting chief of the Dairy Cattle Research Branch, U.S.D.A., Beltsville, Maryland.

Soil sterilants for unwanted weeds

The type of chemical you choose should be determined by cost, length of sterility required, and type of control necessary.

by Earl C. Spurrier

WHEN soil sterilizing compounds are applied they kill all vegetation and render the treated areas incapable of supporting plant life for a time.

Working mainly through the soil, sterilants must be applied in high enough rates to kill the roots of the plants as well as kill newly germinating seedlings. Usually, no growth will reappear on the treated areas for several months or possibly as long as several years.

Soil sterilants have many uses on farms and other areas.

First, they are perhaps most effective for destroying patches of perennial weeds that cannot be destroyed by other means. The materials will make the land useless for crops for a period of time, but if they prevent the weeds from spreading, their use is justified.

Second, they can control vegetation around barns, and other outlying buildings and thus reduce fire hazards. Also, labor demands can be cut if soil sterilants are used in certain fencerows.

Perhaps the biggest use for soil sterilants is for vegetation control around industrial sites, including drive-in theaters, railroads, factories, and other types of public utilities.

Sterility not permanent . . .

Sterilants are classified according to the length of time the residue remains active in the soil.

Temporary soil sterilants last from two to three months to as long as two years. These would include some of the materials such as TCA, Dalapon, Erbon, Atlacide, sodium chlorate, and other chlorate combinations.

Semi-permanent soil sterilants usually last from one to four years and would include materials such as the boron compounds, Monuron, Diuron, Fenuron, and mixtures of urea and borate compounds.

No sterilant is permanent because most materials will eventually leach away and thus become ineffective. Water solubility of the compound greatly determines the length of residual activity and the degree of vegetation control secured under a particular situation.

The urea compounds introduced in 1950 and Simazine, a newer material, are very effective against shallow-rooted perennial weeds but are less effective against deep-rooted perennials.

More soluble materials such as the chlorate compounds are more effective against deep-rooted perennials because of the faster movement into and through the soil. In most any case, however, rainfall following application can appreciably affect the degree of vegetation control obtained.

No one chemical can be recommended for all uses. Dalapon and TCA are preferable for controlling perennial grasses, and leave a residue for not more than six months.

Atlacide and sodium chlorate are preferable for treating perennial weeds in cropland because they are so water soluble and because they kill most of the weeds and usually disappear from the soil within one year or not more than two years.

Where long residues are required, as in fencerows or around buildings and storage areas, the urea or boron compounds are best to use.

The author is an assistant professor of crops, University of Illinois.

Sodium arsenite is too toxic to man and animals to be generally recommended. Erbon appears to have promise as a temporary sterilant in the class with Atlacide and sodium chlorate.

In addition to the aforementioned chemicals, others are on the market that undoubtedly will have a place for soil sterilization purposes; further evaluation is needed.

Salt and industrial by-products were among the first materials to be used for their soil sterilizing properties. Later, about 1910, the arsenicals were introduced as vegetation killers, but because they were so toxic to handle, they found limited utilization as soil sterilants.

In 1926, sodium chlorate was found to be an effective and relatively cheap chemical to use for soil sterilization. It is still one of our best soil sterilants although it creates an extreme fire hazard.

Atlacide, a commercial compound of sodium chlorate and calcium chloride, is much less hazardous to handle and does a comparable job.

Boron and borax became available shortly after the chlorates. At heavy rates of application, the boron compounds are more residual than chlorates and this quality may be desirable where longer-lasting soil residues are required. For such uses, combinations of chlorates and borates have been formulated and made available.

Read the directions carefully before using sterilants and always store the chemicals away from children or animals and where they cannot contaminate feed. Soil sterilants, like any other chemical, should be treated with respect.

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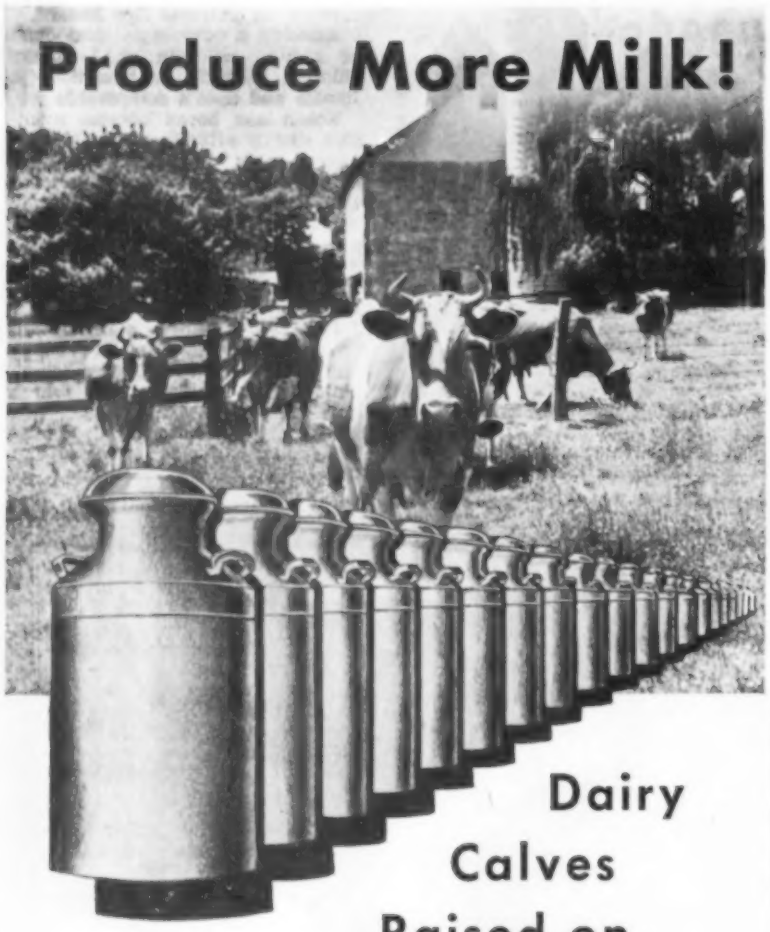

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Makers of Famous Meyer Elevators

Milk orders act as trade barriers?

(Continued from page 535)

and allocation procedures have similar objectives. Because of them the distributor must pay into the local pool when he buys milk from sources other than local producers. Thus, the price for outside milk is actually driven up by requiring payments on it into the local pool.

These payments into the pool, of course, increase the income to local producers. In other words, because of these compensatory payment and allocation procedures, local producers are compensated when plants buy milk from sources other than from these local producers.

Both these features quite obviously have the effect of more or less encouraging handlers to buy their milk locally. This is why midwestern dairy interests have criticized the features. It is their contention that these provisions have encouraged receiving markets to buy milk locally rather than from the Midwest.

How justified?

Compensatory payments are entirely justified on the basis of protecting and preserving the classified pricing system in federal milk orders. Classified pricing requires plants to pay different prices for milk used for various purposes. Thus, milk sold for fluid consumption commands a higher price than milk processed into manufactured products, such as butter or cheese.

The need for a classified pricing system cannot be questioned. It is basic to federal milk orders, and, in fact, to orderly marketing and stabilized pricing conditions.

Obviously, local milk markets and classified pricing would be in danger if other milk could come into the market freely without price fixing of any type and, whenever it is advantageous to do so, displace priced milk.

The classified pricing system would soon disappear if unregulated sources could unload their surpluses on Class I markets without limitation of any kind. Thus, local markets to which Wisconsin producers sell milk, as well as markets in other parts of the country, have incorporated compensatory payment and allocation provisions in their federal orders to protect against this type of situation.

Compensatory payments are justified as a device to prevent bootleg, distress, or surplus unregulated milk from demoralizing the classified pricing system in regulated markets.

Have compensatory payment provisions in federal milk orders greatly affected interstate milk shipments by the dairy industry? To answer this question a mail questionnaire was sent to all 94 Wisconsin dairy plants which have met the United States Board of Health Sanitation compliance ratings for interstate milk shipments. Sixty per cent of the plants replied. A summarization of data obtained from the questionnaire follows:

Were compensatory payments assessed on milk shipments in 1957?
Yes: 2.3 per cent of plants
No: 77.3 per cent of plants
Don't know: 20.4 per cent of plants

On approximateiy how many pounds of fluid Grade A milk were compensatory payments assessed in 1957?
None: 68.8 per cent of plants
Don't know: 28.9 per cent of plants
.1-5 per cent: 2.3 per cent of plants

Did compensatory payments discourage any handlers from buying milk during 1957?
Yes: 5.6 per cent
No: 29.6 per cent
Don't know: 64.8 per cent

On the basis of replies to this questionnaire, it is obvious that, if the Wisconsin dairy industry is being injured by compensatory payments, Wisconsin dairy plants are not aware of it. It is possible, of course, that compensatory payments are assessed on shipments by some Wisconsin plants without them knowing it. It is also possible that others are unaffected directly because the compensatory payment provisions themselves discouraged handlers in markets with these provisions from buying from the Wisconsin plants.

Generally speaking, however, the almost total preponderance of answers on the negative or uncertain side suggests that, in the experience of the Wisconsin dairy plants, compensatory payments have not been a very important factor insofar as interstate sales were concerned. Other factors have loomed more important insofar as interregional sales competition is concerned.

It appears that compensatory payment provisions have not been and do not appear likely to be a major stumbling block insofar as interstate milk shipments are concerned. The big problem faced by the Midwest, insofar as shipping to federal order receiving markets is concerned, is to become competitive on the price side.

State milk orders . . .

As will be recalled, the Wisconsin price plus costs of getting to federal order receiving markets normally is higher than the price for local milk in these receiving markets. Thus, the Midwest is not normally price competitive in federal order receiving markets. This situation, and not the presence of restrictive gimmicks, makes it difficult for the Midwest to sell milk in the federal order receiving markets.

The situation with respect to state milk order markets is considerably different. The number of months during 1955-57 that the Shawano, Wis., Class I prices plus marketing costs were above or below the dealers' buying prices for local milk for fluid purposes in various state milk order markets are listed below. The same 35 cents handling charge for Wisconsin milk used in the federal order analysis is used in the table below.

The state order prices in receiving markets were above the Wisconsin price plus marketing costs

	Number of months Wisconsin price plus trucking and handling charge was below receiving market.	Number of months Wisconsin price plus trucking and handling charge was above receiving market.	Ave. amount that Wisconsin price plus costs was below receiving market price.
Hartford, Conn.	23	13	$ .08
Asheville, N. C.	34	2	.31
Birmingham, Ala.	32	4	.35
Newport, R. I.	32	4	.45
Pittsburgh, Pa.	32	4	.56
Atlanta, Ga.	36	0	.65
Jacksonville, Fla.	36	0	.83
Richmond, Va.	36	0	.91
Total months	261	27	Average $ .53

91 per cent of the time. They averaged 53 cents per hundredweight above the Wisconsin price plus marketing costs. This is in contrast to federal order prices in receiving markets which were **below** the Wisconsin price plus marketing costs 94 per cent of the time.

Thus, although the Midwest is not ordinarily price competitive in eastern and southern federal order receiving markets, they are competitive in state order markets in the same area of the country. The markets under state milk control generally had Class I prices higher than the cost of potential supplies from the Midwest surplus producing area.

Whereas federal milk order prices have tended to be guided by supply and utilization responses, state milk orders have tended to disregard them. As a matter of fact, the state orders have tended to set up controls to prevent supply responses from breaking down established prices.

The major devices used by state orders to impede the movement of additional milk into the state order markets are:

1. Restrictions on the entry of new producers.
2. Restrictions on the entry of other source milk.
3. Restrictions on the entry of new distributors into markets.
4. Restrictions on the expansion of existing distributors into new markets.

There is considerable justification for the contention that state milk order prices in receiving markets are higher than the Midwest prices plus marketing costs to these markets. There is also justification for the contention that state orders have used devices of various types to maintain their prices at these inflated levels, and at the same time impede the movement of milk from surplus areas into these state order markets.

Elimination or modification of various restrictive measures and policies in state orders would improve the opportunity for Midwest milk to move into state milk order markets.

The situation with respect to federal milk order markets is considerably different. Normally the Midwest price plus marketing costs is higher than the federal order receiving market price. Thus, the "barrier" in selling milk in the federal order markets is mostly one of economics and marketing costs. These are the points which will have to be stressed if more of the Midwest milk is to move to federal order markets.

Now, one concluding observation. It does not necessarily follow that removal of state order restrictions or any so-called "trade barriers" would benefit the Midwest dairy farmer. If the dairy farmers in the higher priced markets accept a lower price on their Class I milk, they can still reserve their local markets for local producers.

If this should happen, the only people to gain by removal of restrictions or barriers would be state order consumers who might pay about 1 cent less per quart for milk.

THE END

The salesman stared doubtfully at the rather formidable looking animal on the doorstep.

"What breed is your dog?" he asked the little old lady.

"Don't rightly know," she said. "My brother sent it from Africa."

"Well," the salesman hesitated. "It's the oddest dog I've ever seen."

The prim lady nodded her head. "You should have seen it before I cut its mane off."

Two 4-H dairy projects offered

A pair of 4-H dairy programs offered to club members this year are likely to bring twofold results. Boys and girls can acquire extensive information as to the importance of dairying and dairy products, and also improve diets that are frequently deficient in calcium.

These learn-by-doing projects are the 4-H Dairy Program supported by the Oliver Corporation, Chicago, and the 4-H Dairy Foods Demonstration program sponsored by the Carnation Company, Los Angeles. Club members may enroll in both.

Objectives of the projects are:

1. Learn modern dairy practices.
2. Realize the value of sanitation in production and care of dairy products.
3. Improve the local dairy industry.
4. Understand the contribution science has made to dairying.
5. Appreciate the nutritive value of milk, and make use of dairy products in daily diets.

In 1957, 4-H club members cared for 200,000 head of dairy cattle, according to the U. S. Department of Agriculture.

The Oliver Corporation provides county, state, and national awards to 4-H'ers who do an outstanding job in the dairy program. A maximum of four gold-filled medals will go to blue award groups in each county, while the state winner will get an all-expense trip to the 1958 National 4-H Club Congress in Chicago. Six national champions will each receive a $400 college scholarship.

The six national winners in Dairy Foods Demonstration also are in line for $400 scholarships, and an even dozen 4-H'ers selected on a sectional basis will attend the Chicago 4-H Club Congress. Three state awards (10-jewel wrist watches) will be presented to the top individual and team demonstrators. The Carnation Company is donor of these awards.

The programs are arranged by the National Committee on Boys and Girls Club Work, and conducted by the Cooperative Extension Service. Information regarding enrollment may be obtained from local 4-H leaders and the county extension agent.

Announce aid plan

If you'd like college training in dairy manufacturing but are short of funds, you will be interested in a newly established "work-as-you-learn" dairy program at Michigan State University.

Dr. N. P. Ralston, head of the M.S.U. dairy department, has announced that an assistance program for undergraduates in dairy manufacturing will begin with the fall term of 1958.

Under this program, the student will work about half-time in the dairy plant and go to school half-time. By going to summer school, the student can graduate in four or four and a half years while gaining two years' experience in dairy plant operation. The student's pay will cover nearly all, if not all, of college expenses, including room and board.

Either young men or young women may apply for one of the work-as-you-learn positions. According to Dr. Ralston, applicants should have a "B" average or better in high school, and must be interested in dairy manufacturing. Farm experience or background is not required.

HAVERLY THE BULK MILK COOLER THAT PROTECTS YOUR INVESTMENT

Dairy farmers make a big investment in land, herds, buildings, and equipment in order to produce good milk.

Haverly Bulk Milk Coolers protect this investment by providing the dependable, continuous cooling that maintains low bacteria counts and assures good milk flavor and high butterfat content.

Copper is the key to Haverly's unique cooling advantages. Copper cold walls and exclusive heat exchangers draw heat from the milk. Fast one-step cooling brings milk temperature down to 36°. Then copper heat exchangers continue to carry heat away from the milk — keep temperatures going down — never up — between milkings.

When additional milkings are added, Haverly maintains a blend temperature of 45° or less.

Ask your dealer about Haverly's low down-payment, long-term pay plan. It's easy to buy the one bulk milk cooler that gives you full-time milk protection and makes your other investments pay off.

Dealer Inquiries Invited

THE WORLD'S OLDEST & FINEST MILK COOLERS — Haverly — ROYERSFORD, PA. — JOHN WOOD — SINCE 1851

JOHN WOOD COMPANY HAVERLY EQUIPMENT DIVISION • Royersford, Pa. • Syracuse, N.Y.
Farm Bulk Milk Coolers

SUPERIOR METALWARE DIVISION • St. Paul, Minn. Wire Crates for paper and glass bottles • Dispenser Cans
Milk Cans • Ice Cream Cans • Hardening Baskets • Hooded and Open Pails • Strainers
Metalware for the Dairy Industry and Waste Receptacles

EDITORIAL COMMENT

MORE INTELLIGENT INQUIRY

THE ability and the desire to make intelligent inquiry reflects the strength and stature of man's mind. Heartening to us is a report we received recently from an extension farm economist at a Land-Grant college. Meeting with and speaking to farm groups he has noted a spectacular increase and interest in economic discussions.

Not only has our friend been impressed by the number of dairy farmers turning out for these discussions, he has been challenged to the full extent of his many years of training to properly handle the intelligent inquiries that have been put to him.

Over 130 years ago, Lord Brougham, in a speech to the House of Commons, said: "Education makes a people easy to lead, but difficult to drive; easy to govern, but impossible to enslave."

We think the American dairy farmers' rapidly growing interest in problems economic and thirst for more complete knowledge begins to give assurance that, as an industry, we will not be stampeded by nostrums, or lulled by cliches and platitudes.

THEY PREFER INDUSTRY CONTROL

VERTICAL integration is rapidly becoming one of the most popular farm issues of the day. For the most part, the prime proponents are the same individuals who have bitterly criticized government efforts to bring supply and demand into balance in farming. Their big guns have been fired repeatedly in defense of the poor farmer who was losing his opportunity to make "free and independent managerial decisions" on his own farm.

The rugged individualism of American agriculture was in jeopardy. "Farmers must be free," they shouted and with the thunder of their oratory the listener could envision farmers in chains from coast to coast.

Any man of good conscience could not help but be moved emotionally. Though we have not seen enslaved wheat, cotton, rice, and corn farmers, their plight must be, indeed, tragic if they have lost their "freedom."

Seriously, we have not liked the form of controls taken on by the basic commodities, either. It has long been our contention that only that portion of our national production which is consumed domestically should be supported at a fair price consistent with the other segments and prices of our economy.

We have wanted to see production restrictions lifted so that American farmers could compete without taxpayer or other subsidy in the export market but these proposals have been opposed by the same critics.

Now, however, we find most of these detractors joyously endorsing vertical integration, where managerial decisions on the farm are given over to components of industry. It is admitted, with calloused frankness, that farmers will give up "certain freedoms and privileges," but this sacrifice of freedoms is now not an important consideration. It is argued that, through giving up these freedoms, the farmer will gain "greater rewards" in return. Now the farmer is encouraged to give up his freedoms for security.

In other words, we are told that farmers must not exercise self-control through domestic parity or self-help programs. By so doing they lose the freedom to produce a surplus, glut the market, and depress prices. They must not, through cooperative effort, exercise self-control because under industry-wide cooperative self-control some of us, as individuals, may have to modify some of our management decisions.

But those who argue against domestic parity and self-help now promote an abdication of managerial freedom to business and industry.

Where is the logic?

Whose interests are being served?

MILK—40 CENTS A QUART

A BOUQUET to the Metropolitan Dairy Institute of New York City for a large advertisement it ran in New York newspapers late in April. Under the headline, "Is milk worth 40 cents a quart?" the institute went on to inform consumers that the food values in a quart of milk—the vitamins, minerals, proteins, and other components—would cost at least 40 cents if they were purchased in other foods.

This is a message which should be told and re-told over and over again in every major consuming market of the nation. It should be impressed into the consciousness of every adolescent and adult American.

Everyone cherishes a bargain, particularly in food. Where is there a greater food bargain than in a quart of milk?

Convinced that milk is a high value bargain, would this not be an incentive to increase milk consumption throughout the country? What housewife is not attracted to buying a 40-cent value for 20 cents, 23 cents, or 25 cents?

And let's keep these figures in mind as we weigh the merits of the arguments of those who continue to urge that the price of milk and other dairy products should be even lower.

THE PRICE OF BEEF

THE increase in the retail price of beef in recent weeks and months has made headlines everywhere. Higher food costs have resulted in an increase in the cost of living index and demands for further wage increases. Stories have been printed condemning the food cost bulge, implying that farmers are profiteering.

No one can deny that beef prices are attractive, for the present at least. Of interest to us, however, were some data inserted in a recent Congressional Record by Senator Thye of Minnesota. It was pointed out that in the last 10 years the farm-retail spread, or the middleman's share, has increased from 17.6 cents to 28.2 cents per pound on choice beef. That is an increase of 60 per cent in a period of 10 years.

The farm price of beef will fall again. It always has as the meat animal cycle has risen. We can be certain, however, that the farm-retail price spread will not narrow and, in all probability, will continue to widen.

There is nothing particularly new in this food price picture. It's the same story that can be told about many commodities. We just thought you would like to have the figures to help answer questions raised by your city neighbors.

In 1905, W. D. Hoard said:

If the farmers of the United States were as wise on the question of maintaining fertility as they are in the adoption of machinery, what a country this would be.

BENSON KILLS SELF-HELP

THE self-help dairy stabilization bill, sponsored by the National Grange and the National Milk Producers Federation, is dead for this session of Congress according to Harold Cooley, chairman of the House Agriculture Committee. Cooley offered this opinion May 1 following critical testimony on the bill by the Secretary of Agriculture.

Thus, in spite of bipartisan support in both houses in Congress and strong farm organization support, the self-help measure can expect little more consideration than becoming a part of an omnibus farm bill which, if passed by Congress, would be undoubtedly vetoed by the President.

There is a long and fascinating story leading up to the present status of the measure. Here is an all-too-brief summary of chronological developments to date.

1. In 1949, Congress passed an Agricultural Act which, among other things, provided that dairy prices would be supported at from 75 to 90 per cent of parity by purchasing surplus manufactured dairy products.

2. Following the end of the Korean War milk production jumped over five billion pounds in one year, resulting in heavy purchases by the government and a steady decline in the price support figure (it hit the 75 per cent low of $3.06 for manufacturing milk of national average test following April 1, 1958).

3. In early 1954, Hoard's Dairyman stated that the price support program would not bring supply and demand into balance. Subsequently, U.S.D.A. predicted dairy surpluses through 1965. We suggested that the proposed self-help plan of the National Milk Producers Federation be modified to limit supports only to that proportion of milk which is sold on the domestic market. In summary, this was the genesis of the domestic parity approach to a self-help dairy stabilization program. In the early months of its evolution we called it the two-price plan.

4. In the April 1, 1954 issue of the Congressional Record, the Assistant Secretary of State was quoted on two-price farm programs. A Farm Journal editorial had stated, "Advocates to trying the two-price system may be sure that State Department objections kept mention of it out of the President's agricultural message." In its position against domestic parity or two-price programs, Farm Journal was lined up solidly with the American Farm Bureau.

But, in a letter to Senator Thye of Minnesota, the Assistant Secretary of State wrote, "As a matter of fact, representatives of the Department of State informed representatives of the Department of Agriculture during interagency discussion of two-price systems that export sales under a properly drawn two-price system could be defended as not constituting dumping. They said that such a system would be less objectionable than the present price support program when viewed solely as to its effects on our foreign relations."

5. Indicating immediate interest in the domestic parity self-help approach were the National Grange and Wisconsin dairy and farm organizations.

Receiving strong support from Wisconsin groups, Governor Kohler carried the program to Washington, D.C., and presented it before the National Press Club. Subsequently, it was presented to the White House and to the Secretary of Agriculture. Benson, after extensive

inquiry, told Kohler in June 1954 that the program was the most realistic and promising proposal submitted to him since he took office. He would ask his National Agricultural Advisory Commission to take it up immediately.

6. The Advisory Commission rejected the domestic parity proposal. Benson took no further action and the issue lay dormant for over a year.

7. Early in 1956, the National Grange began exploratory discussions with the National Milk Producers Federation in an effort to reach agreement on a compromise dairy stabilization program. Sessions lasted over two years with agreement achieved January 8, 1958. The National Conference of Commodity Organizations endorsed the new compromise bill and the Farmers Union supported it but did not endorse it. The bill was introduced into both houses of Congress with bipartisan support. At this hour no official position had been taken by the American Farm Bureau Federation or the National Creameries Association. Correspondence and personal contacts in Congress indicated, however, that both groups were working vigorously to stop the bill.

Everybody knows how to express a complaint, but few can utter a graceful compliment — it's a matter of practice.

8. Following January 8, Benson renewed his interest in the self-help dairy bill and had department economists make an extensive analysis of it.

9. Early in March, Benson asked the Grange and Milk Producers Federation leaders to a long conference in his office with top U.S.D.A. economists and legal counsel. He told the group of his personal affinity for the self-help philosophy. Many farmers had expressed to him their desire for the self-help bill. He said then as he had told others previously that he was prepared to personally work "night and day" to perfect such a program.

Seven provisions of the bill were questioned by the Secretary and his staff. Grange and Federation leaders agreed to recommended changes in all but one point. This hinged around the "check in the public interest" and the review by the Secretary of Agriculture. Grange and Federation representatives asked the Secretary to make an alternative proposal to that provided in the bill and assured him that any reasonable proposal would be agreed to by the sponsoring organizations.

10. Following this meeting, the Secretary again submitted the self-help dairy bill to the National Agricultural Advisory Commission. Once again, it was rejected. The Secretary stated he was undecided whether to simply oppose the bill in testimony to Congress or itemize its shortcomings. Meanwhile, the American Farm Bureau had come out in outright opposition to the self-help bill, although the Midwest Farm Bureau Dairy Conference had supported "the desirable features" of a self-help dairy bill.

11. Prior to the Easter recess, the House Agriculture Committee requested Benson to testify on the bill. He declined. It was indicated that the C.C.C. Advisory Board would try to develop a "truly" self-help bill. Following subsequent analysis by U.S.D.A. economists, the Secretary would be in a position to testify.

12. After the Easter recess, Benson again was pressured to testify. If he failed to do so, it was indicated that he would not be invited to testify on the proposal in the future. He appeared May 1 before the entire House Agriculture Committee and testified in opposition to the bills which had been introduced. No other witnesses were allowed to testify. Their testimony may be heard by the Dairy Subcommittee at some future date.

Meanwhile, the Washington representative of the National Creameries Association joined with the American Farm Bureau in strong opposition to self-help.

13. Because of Secretary Benson's strong support in urban areas, his endorsement of any individual commodity bill would be necessary before it could pass Congress. An omnibus farm bill, made up of programs for all commodities, can pass Congress without Benson's support, but faces almost certain presidential veto.

A Texan was talking in the smoking car of a train in the East. None of his listeners had ever visited Texas and he wanted to impress them with its greatness, so he said:

"You can enter Texas in the morning, travel all day, go to sleep and then when you crawl out of your berth next morning, you will still be in Texas.

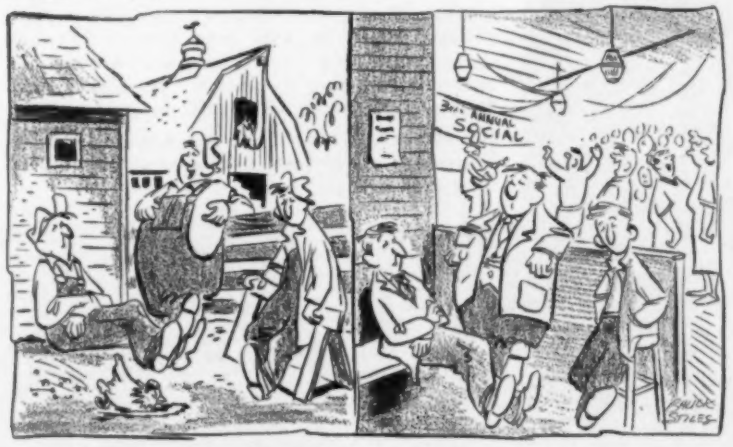
The others didn't seem much impressed, so he decided to stretch things a bit:

"And you can travel all that day, too, and you will still be in Texas."

One of the listeners leaned forward and said:

We've got trains like that in Arkansas, too."

ED . . . and EMMA



"Yeh, Em says I gotta go to the social tonight, too . . . stand around and make with a lot of idle chatter . . ."

"Our DARI-KOOL Has Proved To Be A Very Capable Milk Cooler!"

Write O. B. MEADE and LEON D. MEADE, Newstead Farm, Route 14, Richmond, Virginia

We have used our Dari-Kool bulk milk cooler for nearly three years and are very pleased with its service. We are putting approximately 5000 lbs. of milk through our 500 gallon tank and pumping the milk into our tank truck even while we are still milking. Our temperature is still very good, even under these conditions. We feel that we have put our Dari-Kool to a severe test and it has proved that it is a very capable milk cooler.

(Signed) O B Meade Leon D. Meade

Your best buy is a DARI-KOOL BULK MILK COOLER

The ICE-BANK Cooler that Outperforms and Outsells them all

Model shown DKS-200 (200 gallon capacity) Available in 100 to 1000 gallon capacities.

Send today for your **FREE MILKHOUSE PLAN KIT**

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Please send, without obligation, your new Milkhouse Plan kit.

Name.....

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☐ I am a Dairy Farmer ☐ I am a Student

Plan your milkhouse with this easy-to-use kit. Includes graph sheets and scale model cutouts of milk coolers, water heaters, etc. Arrange to best fit your milkhouse plans.

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KEEPS BULK TANKS LIKE NEW!

No rust . . . no corrosion . . . no pitting . . . with Cowles CLENESCO SANITIZER! This amazing combination cleaner-sanitizer is actually safer than water.

Clean and sanitize all equipment with new ease and convenience. Just one product to buy, with no chance of damage regardless of the amount used, time of contact, or temperature of the solution.

CLENESCO SANITIZER is fully effective in controlling harmful bacteria, yet kind and gentle to the skin.

A little goes a long way—order from your supplier today in 6 or 25 pound reusable pails. Money back if not completely satisfied.

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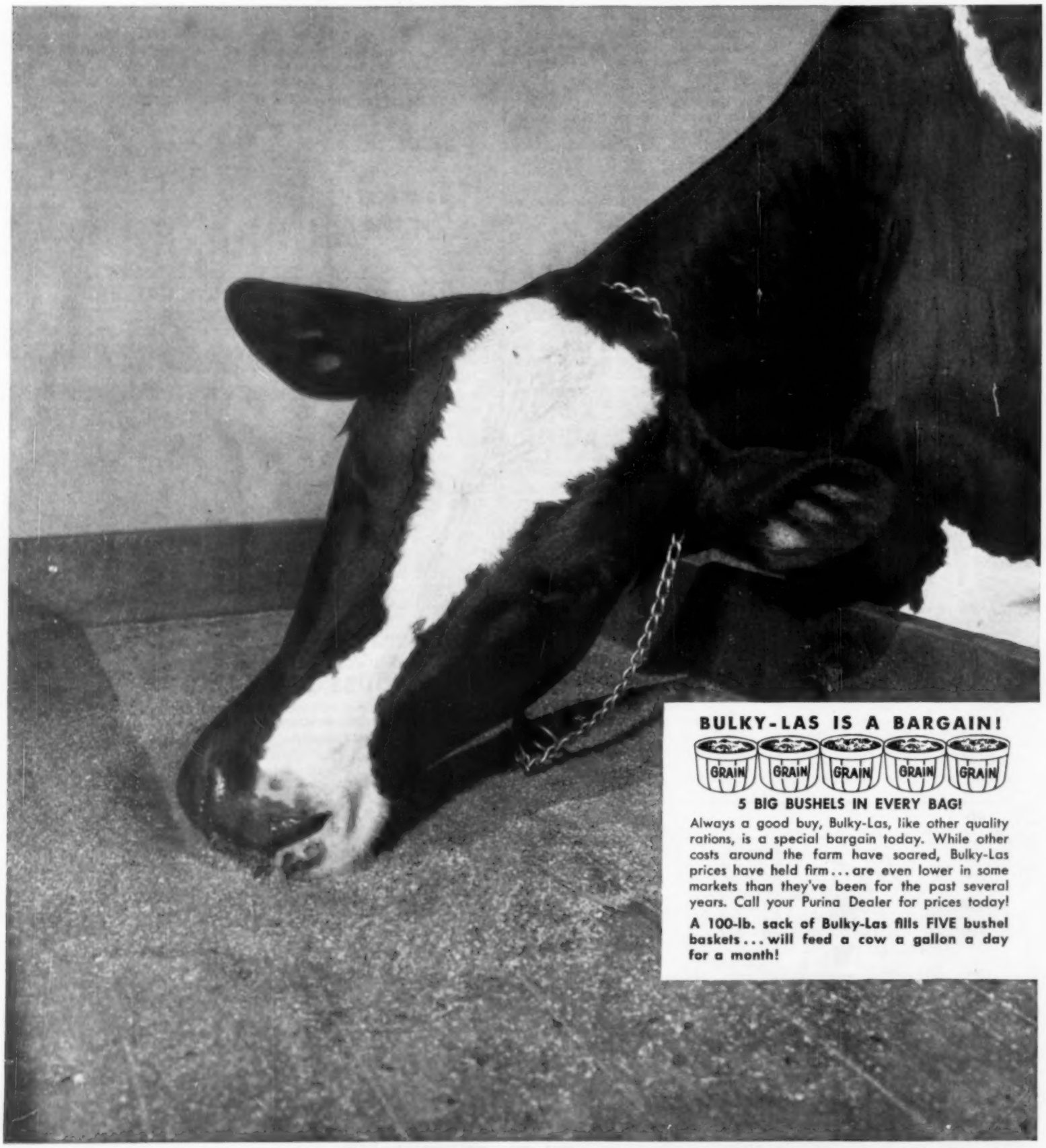
"It pays to feed Purina



BULKY-LAS IS A BARGAIN!

5 BIG BUSHELS IN EVERY BAG!

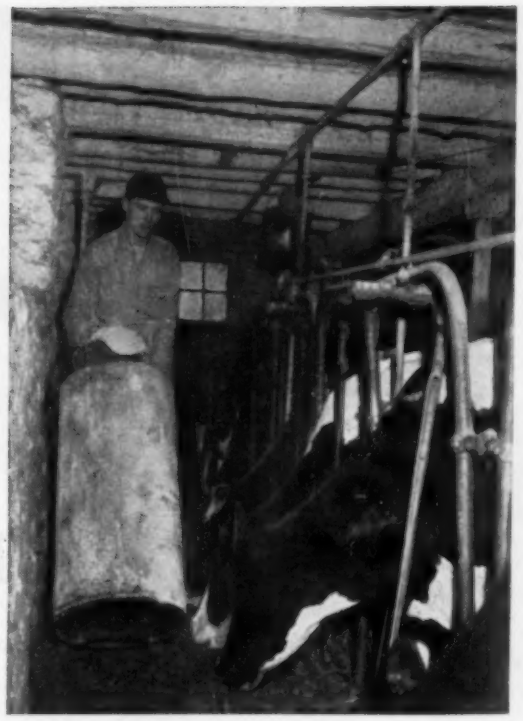
Always a good buy, Bulky-Las, like other quality rations, is a special bargain today. While other costs around the farm have soared, Bulky-Las prices have held firm... are even lower in some markets than they've been for the past several years. Call your Purina Dealer for prices today!

A 100-lb. sack of Bulky-Las fills FIVE bushel baskets... will feed a cow a gallon a day for a month!

Bulky-Las!"

Purina Bulky-Las is probably fed to more cows, by more dairymen, in more ways, in more places, than anything sold in a sack.

And, there'd be more of this unique ration consumed if feeding was left to the cows. Cows love Bulky-Las for what it is, just as dairymen appreciate it for what it does!



MELVIN PROBST of Jefferson, Wisconsin, is typical of thousands of dairymen who include Bulky-Las as an important part of their milking ration. Mr. Probst feeds a Purina-based mixed ration composed of grain, Bulky-Las and Purina Cow Chow Concentrate. Other dairymen top-feed Bulky-Las over their regular milking ration.

Molasses-rich Purina Bulky-Las can be fed in many ways. Some cow men consider it a basic part of their milking ration. Fed with ear corn, ground corn, oats, barley or milo, with or without other supplements, it adds vitamins, minerals, bulk and sweetness. It keeps cows in condition, on feed, producing at capacity. It can be mixed with the ration, top fed or thrown in the manger before other feedings to help get cows into the barn and "entertain" them while pre-milking chores are done.

Other dairymen rely on this 35-year-old standby as a heifer builder and dry cow conditioner. Usually fed with oats, it helps heifers grow big . . . FAST . . . gets them big enough to breed early and keeps them growing right up to freshening and beyond. Dry cows, run down after a long milking period and heavy with calf, can be expected to respond to Bulky-Las, come into milk strong and healthy, ready to produce at capacity and breed again on schedule.

Bulky-Las makes a splendid grass silage preservative, holding palatability and quality and adding energy and minerals grass silage lacks. It can also be fed on top of grass silage to supply body-building nutrients cows need which are not found in grass silage.

In early spring, when grass is lush, green and W-A-T-E-R-Y, Bulky-Las, night and morning, will help hold condition on cows. When pastures turn brown, succulent Bulky-Las helps keep cows regular, gives them nutrients they need to stay in production at this difficult time of year.

Dairymen caught in either a pasture or hay squeeze can rely on Bulky-Las to take care of at least part of their roughage needs by feeding one gallon Bulky-Las night and morning. (One big sack of Bulky-Las is the equivalent in feeding value of four 60-lb. bales of ordinary hay.)

There are other ways this quality Purina cow ration serves dairymen and the cows they keep. Bulky-Las is helpful to cows off feed, for animals in transit, for "just-fresh" cows, for bulls. It will help put a high polish on show stock. It contains no medicine, yet many a dairyman will tell you this tasty product gives cows a tonic effect . . . seems to "pep up" uninterested individuals and get them back on the job.

Regardless of where you live or what you're feeding now, chances are Bulky-Las will help you solve a feeding problem and make you money, either with more milk, better cow condition, or both! Get your supply of Bulky-Las at the Store with the Checkerboard Sign.

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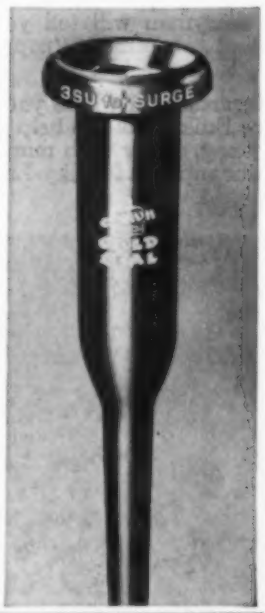

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If a tornado strikes . . .

. . . do you know what to do? Here are a few steps that may save the lives of your family.

by David G. Gosslee

IN THE year 1956, there were 823 tornadoes reported on 174 different days in the United States. Of these, 462 caused 83 deaths and over 1,386 injuries and a property loss of about $50 million.

About 87 per cent of these whirlwinds moved in a general easterly direction with 46 per cent moving from southwest to northeast. The average length of the paths was about 11 miles and the average width was about 200 yards. Individual tornadoes may have paths much different from the average.

These figures were obtained from a report prepared by the United States Weather Bureau. The report for 1957 has not been completed, but indications are that 1957 had an unusually large number of tornadoes. Their occurrence during 1956 was more typical of previous years.

The region including the central and southern great plains and the lower Mississippi River Valley has more tornadoes than any place in the world.

The month of most common occurrence shifts from March and April in the southern states to June in the northern states. Most tornadoes occur between 3:00 and 7:00 p.m. with relatively few occurring between midnight and noon.

Hits Fargo, N. D. . . .

A tornado hit Fargo, N. D., at 7:40 p.m. on June 20, 1957, and swirled across the northern part of the city at about 15 to 18 miles per hour. Eleven deaths, over 100 injuries, and more than $10 million damage resulted. The number of casualties was smaller than in most tornadoes that have caused as much damage. This probably is due to the advance warnings, the slow movement of the center of the storm, and the good visibility.

You should know how to recognize a tornado and know what to do now as you won't have much time after you spot a funnel or one is reported as occurring near you.

Sticky, sultry, and oppressive weather, generally with southerly winds, is typical "tornado weather." The conditions that cause severe thunderstorms can breed these terrible storms. Towering thunderclouds with the lower clouds visible in a churning motion are symptoms of these conditions. Out of the base of this dark thundercloud the funnel reaches toward the earth. The funnel becomes black when it touches the ground and picks up dirt and debris.

Funnel varies in shape . . .

The funnel varies greatly in appearance. Sometimes it is sort of thin, like a dangling rope or a huge elephant's trunk. Often it appears as a fairly wide and solid-looking funnel.

The dark areas formed by rain showers which extend toward the ground should not be confused with the funnel of a tornado. Only the tornado will have the characteristic spinning motion.

There is noise, too. The air-whirl around the funnel gives out a roaring sound, often compared with the sound of many jet airplanes, or freight trains in a tunnel.

Listen for forecasts of possible tornado activity during the season and time of day when tornadoes are most common. When such forecasts are issued, be watchful of cloud formations from which one might develop and keep your radio or television sets on. If you see a funnel, keep from getting overly excited and carry out your prearranged plans.

Seek shelter in basement . . .

If you can judge the path and speed of the twister, it may be best to escape from the expected path by moving at a 90-degree angle and away from the path. Normal speed in an automobile will easily bring you a safe distance away. Do not increase the chances of an accident by driving wildly. If you are in the open, it is best to lie in a depression and cover yourself for protection from flying objects, if possible.

If you hear a report of a tornado in your area, if you can hear one, or if you see one but cannot determine its path and speed, take shelter. If you live in a town large enough so that traffic tie-ups may develop or, if for other reasons, the escape route may be blocked, take shelter. Seek shelter in a storm cellar, an excavation, the southwest corner of the basement of a frame house, or the lower floor of a reinforced building.

Protect yourself from flying and falling debris by staying away from windows, and by lying under a table or other protective object. Stay under archways or other protective supports and in small rooms. Steel-reinforced buildings offer much more protection than brick and stone buildings without reinforcement, but stay away from auditoriums and gymnasiums.

After a tornado or other disaster, keep your curiosity in check and do not make phone calls or visit the damaged area. If you want to help, volunteer your services through organized channels, or stay at home. Unauthorized persons and vehicles in the disaster area cause enormous delays in rescue and cleanup work.

Schools, factories, cities, and other organizations should work out a plan of action in case of a tornado warning or sighting, as well as for other emergencies. This should be done in cooperation with the proper authorities.

The author is a statistician at North Dakota State College.

Stop Johnson grass . . .

. . . before it crowds you out. The underground stems and fibrous roots are responsible for rapid spread.

by F. W. Slife

INFESTED Illinois field. The grass reduced potential 100-bushel yield per acre to 20 bushels.

JOHNSON grass is one of the most serious perennial weed problems found in the southern half of the United States. It persists as a serious problem in the lower one-third of the Corn Belt.

This weed is not a new problem in this country. About 1830 it was introduced as a forage crop in the Cotton Belt. It remains as one of our better forage grasses today, but, unfortunately, it is difficult to get rid of and it has now spread to some of the most productive corn and soybean ground. It may move even farther north.

Johnson grass looks so much like Sudan grass that it is necessary to dig up the plants and look at the root system in order to tell them apart. Sudan grass has a fibrous root system, while Johnson grass has fibrous roots and underground stems called rhizomes. When the rhizome is scattered to different parts of the field through cultural practices, it is able to start new infestations.

Strong competition . . .

Johnson grass offers such strong competition for moisture, light, and nutrients that it can reduce potential 100-bushel corn yields to 15 or 20 bushels per acre.

In the past, the only control measures have been cultural practices. Some areas have tilled the soil at two- to three-week intervals all season long and then grown crops for two or three years until the grass gets so thick it is necessary to repeat the operation.

Winter grains have been used extensively in Johnson grass control programs. The winter grain usually is harvested before the Johnson grass begins the vigorous summer growth and then the soil is tilled the remainder of the season at two- to three-week intervals. Fallowing after winter grains is one of the best control measures.

Spraying with dalapon . . .

Several years ago dalapon was introduced on the market. Dalapon is a very temporary soil sterilant in that it will last from two to four weeks, depending largely upon rainfall and soil temperature.

Dalapon is not selective enough to be used in corn and soybean fields to eliminate Johnson grass, but it can be used early in the spring before these crops are planted. Rates of 10 pounds of dalapon in 30 gallons of water per acre early in the spring when the Johnson grass is approximately one foot tall have given about 80 per cent elimination of the old grass.

One week after treatment, the area is plowed and two to three weeks later corn or soybeans can be planted. Although this does not eliminate the Johnson grass problem, it eliminates a large part of the old grass.

Eight pounds of dalapon after winter grain harvest has thus far given complete elimination of old grass. In this treatment, the stubble is chopped two weeks after wheat harvest and as soon as the Johnson grass regrows to a height of 12 to 18 inches, it is sprayed with 8 pounds of dalapon in 30 gallons of water per acre. About four weeks later, ground is fall plowed.

Continual vigilance by farmers in the Johnson grass area is needed even though most of the old grass is eliminated by cultural or chemical means. Johnson grass produces hundreds of seeds per plant. These seeds germinate early in the spring and if not eliminated will begin to produce rhizomes in 5 weeks and a crop of seed in 70 days.

Corn fields should be planted in hills so that cross cultivation will cover up these seedlings. If seedlings are not controlled, by the end of the season the land will be infested again with established Johnson grass. At the present, the best way to cope with seedlings is good cultivation.

EPTC looks promising . . .

A new chemical (EPTC) offers a great deal of promise for seedling control. As little as four pounds per acre incorporated into the seedbed prior to planting corn has given 100 per cent seedling control for several months. This chemical is not yet available for widespread use.

Although there are thousands of acres solidly infested with Johnson grass, there are many times this acreage infested with scattered clumps and patches. This is a critical problem because if it is not controlled it will soon be solid stands. These clumps are most effectively controlled by chemical treatment before seed is produced.

Dalapon can be used at the rate of one pound in five gallons of water to spray the foliage, but many farmers prefer to use sodium chlorate or Atlacide. A handful of either material placed in the clump will usually eliminate the problem. A good practice when cultivating is to carry a bagful on the tractor so that treatment can be made without getting off the cultivator.

If sodium chlorate is to be used, it should be carefully handled because it creates a serious fire hazard on clothing or on dried vegetation.

The author is an associate professor of crop production, University of Illinois.

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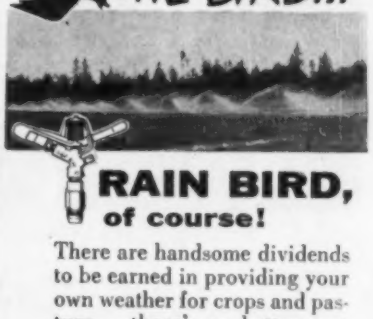

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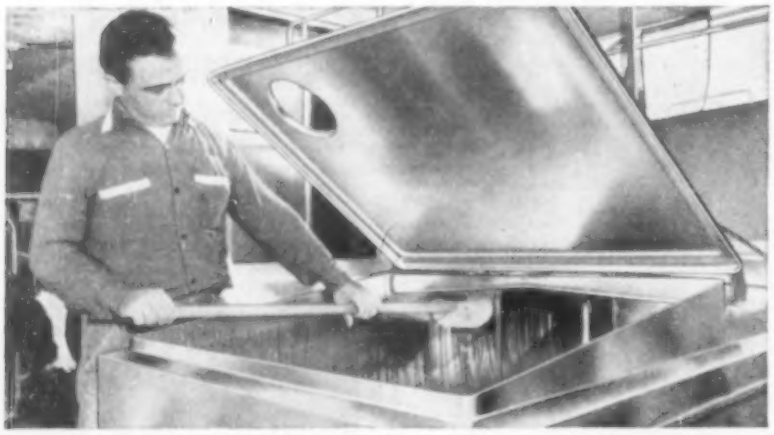

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INDIVIDUAL PARTS have been cleaned and oiled for storage. This practice will prevent corrosion and lengthen life of planter.

Mothball your corn planter

Remove all traces of fertilizer; cover parts with thin film of oil or grease; store in a dry place.

by George E. Pickard

A PLANTER does not ask for much special care but it will really cause you lots of grief, to say nothing of lost time and poor crops, if you neglect it. Like most other machines, success in operation depends a great deal on the attention given to putting it away in good shape after the planting season is over and preparing it for work the following spring.

If your wife left her fur coat hanging in the closet all summer without any moth protection you'd hit the ceiling, wouldn't you? Corrosion can eat up your planter just as surely and as quickly as moths can eat the fur coat.

The comparison can be carried even further. Safety from moths calls for cleaning, followed by protection with some sort of repellent to keep the moths away. Likewise, planters must first of all be thoroughly cleaned to remove all traces of fertilizer, soil, and seed inoculants that can cause corrosion; then they must be protected with a coating of oil or grease to keep the air and moisture away from the metal.

Clean and oil . . .

Starting with the seed hoppers, remove the plates so as to be sure that there are no seeds sticking around cut-off pawls and knockers.

Clean all of these seed metering parts carefully. If you have been planting beans treated with inoculant or any seed with which an insecticide such as aldrin has been mixed, it will be necessary to wash the parts thoroughly as both of these materials tend to cause sticking of the dogs or knockers even if no rusting occurs. Coat all of these seed box parts with a medium weight oil. Too thin an oil gives only partial protection.

If your planter is equipped for power or check dropping, examine the valves to be sure there is no dirt or fertilizer wedged in them. This will cause rusting and will interfere with proper operation so that uneven stands will result.

The furrow openers themselves should, of course, be cleaned and oiled to prevent rusting.

If your planter has a fertilizer box, it will require special care. First of all, to get all of the caked fertilizer out from around and under the feed wheel it is usually best to use water pressure from a hose. It will often be necessary to scrape parts on which the fertilizer has caked. When the parts are dried, coat them thoroughly with medium-weight machine oil or used transmission oil thinned with a small amount of kerosene. It is better still to repaint the sheet metal of the seed and fertilizer hoppers after they have been cleaned and dried.

Just as your wife airs out her coat to get rid of the moth ball smell before she wears it, you have to get rid of the oil that has protected your machine parts when it comes time to plant again. Washing in gasoline or other solvent is the best method, using all precautions to prevent fire. In other words, do it out in the open.

If you use fertilizer solutions with your planter, the moth-balling operation is very much simplified because there is no scraping and washing to do. Flush the tank and system out thoroughly two or three times with water; then fill the tank or tanks with water and add a quart of oil to each. Now, as the tanks and system are emptied a film of oil is left clinging to all the inside surfaces. The outer surfaces also should be washed and oiled wherever the fertilizer has been in contact. If a pump system (other than a hose pump) is used, the pump should finally be removed and stored in oil.

Early spring chores . . .

As soon as you have bought your seed, you will want to have it checked by your planter dealer to be sure you have the correct plates to sow your particular seed uniformly and accurately at the rate you want to plant it. Seed corn, for instance, may vary considerably in size and shape from year to year even within the grades described as medium flat, and so forth. You can, therefore, protect yourself against poor stands and lost time at planting by making use of this service of your dealer. Be sure to have it done early so he has time to order the plates you need in case he is out of them.

At the same time, check your

The author is professor of farm power and machinery at the University of Illinois.

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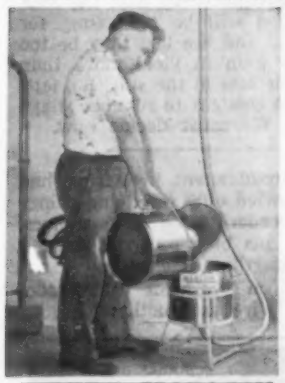

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planter for any parts that may need replacing. You may have made a list of these parts when you cleaned up the machine for storage. This is an excellent practice with all equipment.

Checking for worn parts . . .

In checking over the planter for needed replacement parts, pay particular attention to the cut-off pawls and the knockers. Worn pawls and weak springs are, after improperly chosen plates, the most common causes of uneven planting.

Be sure to check the bearings of the hopper drive shafts and the seed-plate shaft. When these bearings become badly worn, the bevel gears of the seed-plate drive mesh improperly, bind, and break.

Of course, your planter will last much longer if you store it inside. In fact, machines such as planters that are used only a few days per year take much more of a beating from the weather than they do from actual working. A planter several years old can look like new if given this special care.

Don't forget to jack the planter up to take the weight off the tires and, especially if you have to leave it outside, be sure the furrow openers are up clear of the ground. Before you start to plant in the spring, check the inflation pressure of the tires against the recommendation in your operator's manual since manufacturers differ in their instructions.

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David Diehl, Newton, Iowa, has been named Holstein fieldman for Minnesota, Nebraska, North Dakota, and South Dakota. He succeeds John Stewart, now an official classifier.

Diehl has been extension youth assistant in Jasper County, Iowa, since graduating from Iowa State College.

He plans to re-locate in Sioux Falls, South Dakota, with his family in the near future.

Land O'Lakes report on self-help bill

Circulating widely throughout the dairy industry at the present time is a report that Land O'Lakes Creameries of Minneapolis, Minn., is opposing the self-help bill now before Congress. A letter from Frank Stone, general manager of Land O'Lakes, advises the industry that the report is not true.

At the recent annual meeting of Land O'Lakes the delegates raised three questions which were designed to improve the self-help bill and provide even greater assurance of its effectiveness.

The action of Land O'Lakes was constructive in every respect. The full intent was to improve and strengthen the self-help plan, not oppose it.

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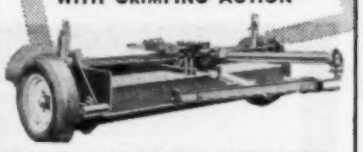

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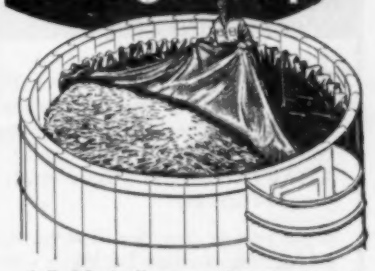

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The canning season is here. Why not can some of the extra grass in your silo for use later on?

by N. N. Allen

AT THIS time of the year dairymen are enjoying the blessing of an abundance of fresh, green grass. When our cows are grazing a good pasture where they can fill up quickly on the young growing plants of legumes and grasses, they are getting about as near to a perfectly balanced diet as we could give them.

The cows tell us that they are being fed well by increasing production to the extent that our dairy plants are swamped with milk. It would be wonderful if this could last during 12 months of the year, but we know that there will be no green grass during the long winter.

Man learned long ago to preserve foods during the season of abundance for use during the period when such foods were not available. So, during the summer, he harvested more of the summer fruits and vegetables than he could eat and preserved the excess by such means as drying, pickling, and canning. By this means he enjoyed these foods the year around.

The idea also was carried over to green forages for the livestock. During the growing season, they are preserved by drying into hay and by pickling and canning in the silo. When the winter winds are howling, these dried and canned forages keep the cows milking.

The dairyman has found silage a very valuable winter feed, to the extent that the silo has almost become the trade mark of the dairy farm. This has traditionally been corn silage, but during recent years, grass silage has been a "new" development.

Grass silage not new . . .

It is interesting how old some of our new ideas actually are. Centuries before the first corn silage was made, European farmers were packing green grass tightly in pits or stacks and allowing it to ferment or pickle. This pickled grass was sometimes known as "sour hay." When the practice was brought to this country, corn quickly became the most popular silage crop. For many years, when silage was mentioned, we assumed that it was corn.

About 30 years ago, interest in making silage from the meadow crops was revived, partly due to the idea of adding materials such as acids or sugars to improve the quality. With most dairymen, the interest was short lived. Wagons and equipment broke down and old silos gave way under the weight and pressure of this heavy material. Muscles ached from handling it; the silage was often smelly; and the cows did not eat it with the relish they showed for good corn silage.

Some dairymen stuck with it and learned how to get better quality and how to feed it. Heavier tractors, field choppers, blowers with greater capacity, and power unloading wagons have taken the backaches as well as many of the headaches out of making grass silage. With better equipment, the practice has increased steadily.

Even on farms where corn is grown as the main silage crop it is finding a place. One place where it has seemed to fit particularly well is for summer feeding. On most dairy farms, hay-making time finds a silo empty. In many parts of the country we can just about count on some dry weather during midsummer when pastures are very poor. When this happens, it's a good feeling to have a supply of "canned pasture" to tide the cows over.

If we start feeding good grass silage when the pastures begin to fail, the disastrous drop in production which so often occurs can be prevented. It is important, though, to watch the pastures and to start feeding before production drops.

When the grass gets so short that the animals cannot fill up in two or three hours of grazing, the pastures need some help. With good grass silage, we can hold up the production without feeding any more grain or increasing the protein of the grain.

Why not use hay?

Couldn't we use good hay instead of silage to help out the pastures? We could, but so often when the first crop is ready to cut, the weather is not good for drying hay. We can move right along with making grass silage when it is very hard to get enough hours of sunshine and breezes to get hay dry before a shower, and we don't like to have the first cutting of hay dragged out over too long a stretch.

So, we would suggest that some of the first crop of hay be "canned" for a pasture substitute during the latter part of summer. It's a pretty good substitute, too. In a recent issue, we mentioned the report from Wisconsin where two acres made into silage and hay produced as much milk as three acres strip grazed or two and a half acres cut fresh daily and hauled to the cows.

We know that there is some loss of feeding value in making silage. How could it give more feeding value than cutting and feeding fresh with practically no loss? It's because we can cut the entire crop when it is at the right stage of growth to give the biggest yield. If we are cutting every day, the first that is fed will be too young for good yield and the last may be too old. The gain in yield more than offsets the loss in the silo. So, let's give some thought to summer silage feeding. We must decide now.

A railroad agent in Africa had been "bawled out" for doing things without orders from headquarters. One day his boss received the following startling telegram:

"Tiger on platform eating conductor. Wire instructions."

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POULTRY

Joe W. Sicer

Let's cut the cost of raising pullets

Pullet depreciation cost can be from 20 to 40 per cent of egg production cost. Here is how to cut it.

WHAT does it cost you to raise a good pullet to laying age? $1.25? $1.75? $2.00?

What do you get for her when you sell her as a hen, either as a cull bird or at the end of her laying year? 35 cents? 50 cents? $1.00?

The amounts will vary with breeds. They also will vary with the flock management. But the difference between what it costs you to raise a pullet and what you finally sell her for is a big item in the cost of producing a dozen eggs.

This pullet depreciation cost can account for anywhere from 20 to 40 per cent of the cost of producing eggs. Ways and means of holding it as low as possible are, therefore, worth-while studying.

A bookkeeper would list the usual items that make up the cost of raising a pullet. These are cost of the baby chick; feed; fuel; litter; miscellaneous supplies; sanitation products and possibly vaccines; overhead costs, including interest and depreciation on buildings and equipment, insurance, and taxes; and labor costs.

Where can you start whittling?

It is poor economy to save on chick cost if by so doing you sacrifice productivity and livability.

Buying straight-run chicks instead of sexed pullets may be helpful if you raise heavy breeds and can find a good market for the cockerels as meat. Most egg production strains, however, are not very efficient meat producers and the price paid for broilers has not been encouraging for a small raiser.

Fuel cost can be cut if a central brooder house is used instead of several individual houses. Large operators can make further savings with a hot water brooding system.

Whether or not you are aware of it, overhead costs add 15 cents to 20 cents to the cost of a pullet. Once you have your buildings and equipment, about the only way to cut overhead costs is to use your facilities to raise more pullets. Two or three broods per year instead of one will cut the per-pullet cost proportionately.

Trimming feed costs . . .

Feed is by far the biggest cost item in pullet raising. It is usually more than half of the total cost, and is a good place to put on the cost reduction clamps.

Here, again, it is penny-wise and pound-foolish to try to save by using cheap feed; that is, feed which is cheap because of poor quality.

Use your good home-grown grains, supplemented with commercial concentrate instead of buying a completely mixed feed. Use those grains which give you the most food value for the least cost.

In rough terms, the productive energy values of our common grains, pound for pound when compared to corn, are as follows: Corn, 100; milo, 100; wheat, 89; barley, 71; oats, 67. Get out your pencil and figure which is the best buy at your prices.

Build your ration to fit your birds and the kind of pasture you have available. Growing pullets do not need a high protein ration. To feed them one is needless expense. Good growth can be obtained with a protein level of 14 per cent.

Where an abundance of succulent pasture is available, the protein can be reduced to 12 per cent if the mineral content of the ration is kept in balance.

Restricted feeding? Research is still conflicting as to the longer-term value of this practice. But whether you do or do not follow a program of restriction, you will be wise to let the feeders run empty for at least a short time each day.

There are big opportunities for cutting feed costs by stopping feed wastage. Outside feed troughs that are overfilled not only lead to waste because the pullets bill the feed out, but they invite the wind to whip the mash out of the troughs and sail it away in an expensive dust. Pellets fed on the ground also can be surprisingly wasteful if the pellets are soft and crumble easily.

The negligence charge . . .

Negligence is the one big cost which doesn't show up in the bookkeeper's listing. Unfortunately, it adds to the cost in almost every flock, yet it can be eliminated.

Negligence lets red mites get a start and sap much of the vigor out of your birds. An hour spent in painting the perches with anthracene oil, or spraying with lindane could have saved that cost.

Negligence allows the brooder house or range shelter to remain on the same spot where the pullets were raised last year; or, worse than that, lets it stay close to the old hens. Roundworms, coccidiosis, leukosis, or all of them together may develop and raise sky high the cost of a good pullet.

Negligence lets the water pan stand in the sun instead of in a shady spot.

Negligence lets slime, which leads to dysentery, stay in that unwashed drinking pan.

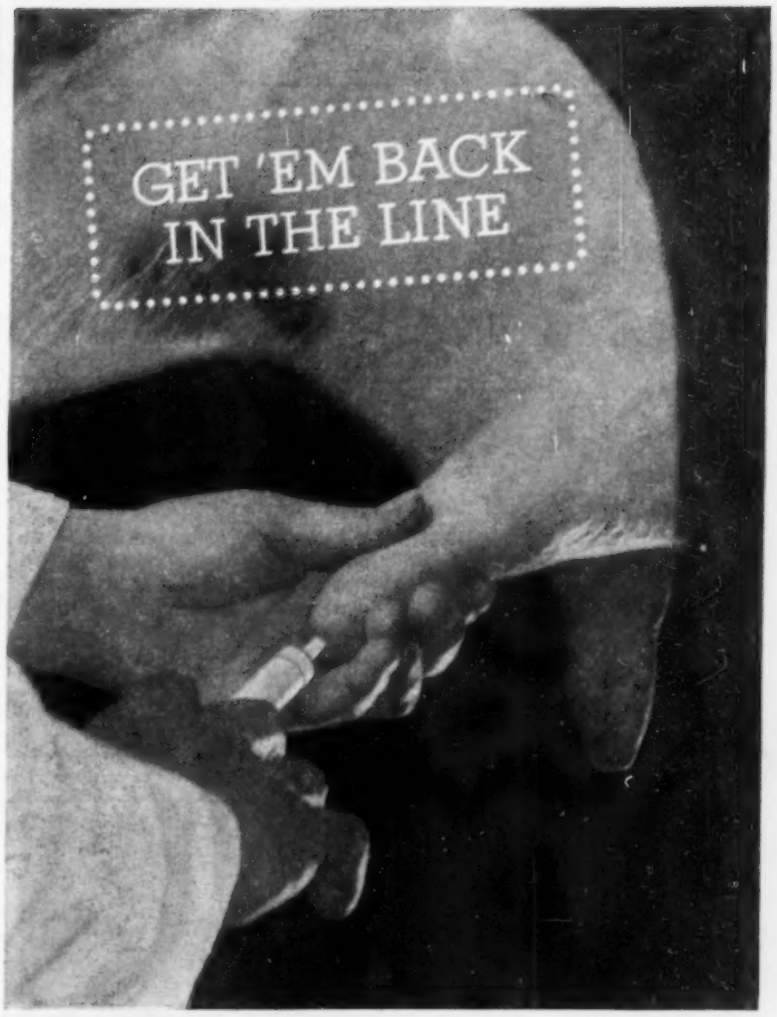
Negligence lets mud puddles develop around the waterer.

Negligence lets rats breed and increase to eat the feed meant for the pullets, and even perhaps carry infectious diseases into the flock.

Negligence delays vaccination against fowl pox when needed, and brings you up suddenly against an actual outbreak.

Negligence puts off building that extra range shelter you need to relieve the crowded conditions in your brooder house.

Yes, the cost items listed by the bookkeeper are very important. Study them carefully so you can trim wherever possible, but check very closely that often overlooked extremely big item of cost — **negligence!**



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Nolvasan sanitizing solution quickly kills most mastitis-causing organisms. Prevents the spread of infection. Use it daily as an udder wash, for dipping teat ends after milking, and for sanitizing equipment. Nonirritant to the skin, will not chap, odorless.

For effective herd control of mastitis use both Nolvasan and Soxipent, dispensed only by veterinarians.

It always pays to **consult your veterinarian** *he knows best —what's best*

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DAIRY FARM HOME

Summer specials

Summer is coming and refreshing meals are the order of the day. Here are suggestions.

by Marian Pike

JUST as the family cook begins to tire of preparing winter foods, here comes spring. Then when spring begins to pall, here comes summer with added variety.

Here we are showing typical summer foods. The fruit salad shown is a big one, intended as the full meal for a ladies' luncheon. You may make it smaller and serve it as a salad course. You may serve it with a honey fruit dressing; you may sweeten the fruits before arranging them.

The chicken mousse is also a little on the lady type, but you'd be surprised how men will go for it if you use it for a buffet-type supper or take it to a pot luck.

With either of these, you might like to serve some delicious cheese puffs, the recipe for which was sent to us by Mrs. Lewis of Perkasie, Pennsylvania.

Cheese Puffs

Soften **¼ pound butter** and **½ pound old English cheese, process type.** Blend to consistency of whipped cream.

Remove the crusts from a loaf of unsliced white bread and cut into 1-inch cubes. Coat the cubes evenly in the cheese mixture and store in cool place until ready to use.

Shortly before serving time, arrange the cheese cubes on a cookie sheet; place under a broiler and toast to a light brown. Serve while warm.

These are tasty with soups and salad the year through, and you don't have to label the recipe "summer only."

Strawberry Shortcake

It is risky to give a recipe for shortcake because every family has its own favorite type.

But we thought you'd like to see this skyscraper type. You could put vanilla ice cream between the layers instead of whipped cream. Or you can just use the sweetened berries, and pour cream over all.

Cold cuts nourishing . . .

More and more you'll be using cold cuts as the summer season progresses, for quick meals, for unexpected guests, for variety.

It's nice when selecting cold cuts to buy enough to allow a choice, in a variety of flavors, textures, colors, and shapes. Coarsely-chopped and finely-ground meats give texture contrast. Color interest is found in cuts that are red, pink, brown, or flecked with pimiento, pickle, or cheese. Cold cuts come in oval, round, square, or irregular shapes. There are unlimited possibilities for flavor contrast, smoked, spicy, tart, garlic flavored, as you like.

Here's information about some of the more popular types:

Salami — Highly seasoned, air-dried sausage, containing garlic. Eat sliced from platters or in sandwiches and slivered in salads and soups.

Liver sausage—Delicately spiced and seasoned, sometimes smoked. Sliceable, spreadable, has the important nutrient values of liver.

Bologna — Mild combination of ground beef and pork. Usually eaten cold, but may be fried until edges curl and used as case for individual servings of vegetables.

Pickle and pimiento loaf — Colorful cooked meat, mild in flavor but spiced with pickles or pimientos.

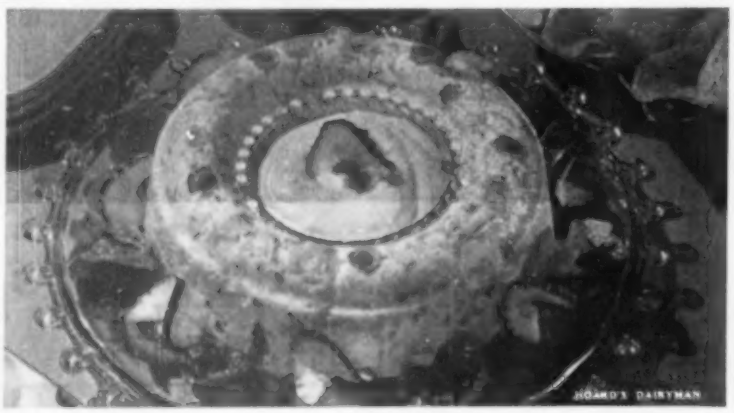
Head cheese — A jellied meat loaf, sometimes called "souse." Serve well chilled.

Ham sausage — Sometimes called "New England Style Sausage," a ham-flavored cold cut.

Fruit salad a la mode

- 3 medium scoops vanilla ice cream
- ½ cantaloupe
- 6 to 8 Bing cherries
- ½ peach
- ½ pear
- 1 slice watermelon
- ½ cup raspberries
- 1 yellow plum
- 1 small bunch grapes
- ½ cup blueberries.

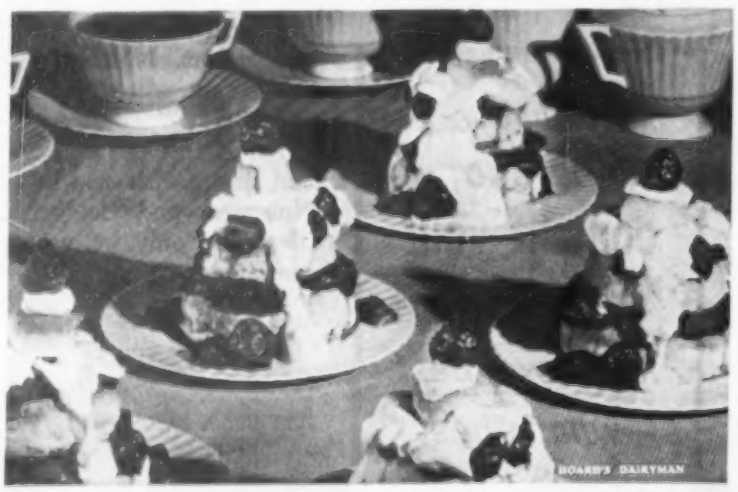
Arrange crisp greens and fruit on luncheon plate in attractive way, slicing peaches and plums and cutting watermelon in wedge-shaped slices. Place peeled half cantaloupe in center, filling with ice cream just before serving and topping with blueberries. Makes one serving. Pass dressing.



Chicken mousse

- 2 envelopes plain gelatin
- 2½ cups milk
- ¼ cup butter
- 3 tablespoons flour
- 1½ teaspoons salt
- ¼ teaspoon celery salt
- ⅛ teaspoon monosodium glutanate, optional
- ¼ teaspoon grated onion
- Dash of pepper
- 1½ cups salad dressing
- 3 cups diced cooked chicken, turkey or veal
- 1 cup thinly sliced celery
- ½ cup sliced stuffed olives
- ½ cup slivered blanched almonds
- ¾ cup whipping cream, whipped

Soften gelatin in ⅛ cup cold milk for 5 minutes. Melt butter in saucepan over low heat and blend in flour. Add milk slowly, stirring constantly and cook until sauce is smooth and thickened. Remove from heat. Add gelatin and stir until dissolved. Blend salad dressing into mixture. Cool. Carefully fold in remaining ingredients. Pour into lightly-buttered 6-cup ring mold or individual molds. Chill until firm. Unmold on crisp salad greens. Garnish with tomato and cucumber slices. Makes 8 to 10 servings.



Skyscraper strawberry shortcake

- ½ cup shortening
- 3 cups sifted all-purpose flour
- 5 teaspoons double-acting baking powder
- 1½ teaspoons salt
- 5 tablespoons sugar
- ¾ cup milk
- 2 eggs slightly beaten
- 4 cups sliced sweetened strawberries
- 6 whole strawberries
- 1 cup heavy cream, whipped

Sift together dry ingredients; cut shortening into flour mixture with pastry blender or two knives until mixture is the consistency of corn meal. Combine milk and eggs. Add to flour mixture all at once while stirring with a fork. Turn onto lightly-floured board or pastry cloth and knead gently 2 or 3 times. Roll out dough ¼-inch thick. Use graduated sizes of floured cutters to cut out 18 rounds of dough (six rounds 4 inches in diameter, six 2¾ inches in diameter, and six 1¼ inches in diameter.) Place rounds on baking sheet. Bake in hot oven (425 degrees) 10 minutes. Build skyscraper shortcakes by stacking backed rounds "3 stories" high. Begin with largest round and end with smallest. Place sweetened strawberries and whipped cream between each "story." Top with a little whipped cream and whole strawberry. Serves 6.

From Day to Day

by Lois J. Hurley

REMEMBER the recent column in which I complained about the poor quality of bacon which I had purchased with increasing frequency during the past few months? Many women have shared my unhappy experiences, according to the mail received.

Along with echoing complaints came a cordial note from the home economist of a packing company, which has a large plant in my state, expressing their concern over my bacon troubles and inviting me to visit them and see if, together, we might find some reasons for them. I spent a most interesting day making such a visit recently and want to share some of the highlights with you.

This company markets some 50,000,000 pounds of bacon annually and they are striving constantly to improve and insure its high quality. To quote a news release issued at the time of the plant's 75th anniversary, one out of every 10 production employees is trained to inspect products at every stage of processing to insure the maintenance of high-quality standards. As a double-check, scientific testing equipment in the laboratories detects imperfections not visible to the eye.

Products and techniques are studied continuously by chemists, physicists, statisticians, bacteriologists, and other research technicians.

Why, then, do we sometimes get a package of bacon that gives off a bad smell in cooking, or that yields off-flavor drippings?

"There can be three causes for this," head of the product control department told me. "The bacon can be rancid, either from standing too long on the grocers' or homemakers' shelves or it can come from a garbage-fed or a stag hog.

"Grain-fed hogs of 220 to 240 pounds are the type we try to buy for best bacon, at rural purchasing centers, so it is hard to think we ever slaughter garbage-fed hogs or stags. However, no packing house could have complete quality control unless it supervised the animal from the moment of birth to the finished product in the package you buy.

(Incidentally, this company is doing extensive research in genetics and they are very excited over what the results promise to be. Hand in hand with a feed company and the state university, they have bred, under supervision, and kept complete records on 14 generations of swine and the results may eventually produce an entirely new type of pork for our dining tables.)

"Bacon is a comparatively high-priced meat and there may be periods of homemaker resistance to it, thus causing it to pile up on the grocers' refrigerator shelves," the production control expert continued. "Bacon will become rancid if held too long at any point, even in the home refrigerator. It is a quick turn-over meat, especially after the package is opened. This might cause some complaint about off-flavors and a strong odor in cooking, though it is not likely to be a major problem. Drippings, of course, must be kept refrigerated, for good results in cooking."

I asked about the thick-sliced or "ranch-style" bacon, which in my own personal experience has been chief offender in yielding bad odors in cooking and strong off-flavor.

Some of this type bacon may be taken from hogs larger than the best 220-pound weight, I was told, and thus is not the most choice bacon. It might possibly be sliced from the ends of the bellies, which again is not the choice location.

This brought up the matter of grades of bacon, of which most homemakers are conscious, but uninformed since packages are not grade-labeled. Price is our only guide; we know that a bacon selling for 59 cents a pound is not as good as that priced at 79 cents, but why?

"Second grade bacon doesn't mean that there's anything wrong with the meat, which must all pass rigid Federal inspection," my guide through the processing plant told me. "It means that it has likely been cut from the ends of the belly or from a larger belly. Like center-cut pork chops or center slices of ham, the center belly produces the best quality of bacon.

"Second grade bacon may be leaner than good bacon should be, which causes it to fry out hard. It may be a little 'scrappy' though our end pieces are sold as 'bacon ends' and the final cuttings go to the rendering plant."

"Many people prefer 'limp' bacon, yet are afraid not to fry it crackling crisp. Is there any danger of trichinosis from slightly under-cooked bacon?" I asked the home economist.

"So slight as to be safe in saying 'non-existent' in cured, smoked meats such as bacon and ham," she replied. "Over-fried bacon loses flavor; lots of bacon is doubtlessly spoiled by improper cooking. Homemakers should follow the directions on the package to insure best bacon. Slow, low-fire cooking is the path to perfectly-cooked bacon.

"In fact," she continued, "one of the best and easiest ways to prepare bacon for a large family or a crowd is to bake it. Heat your oven to 400 degrees; separate the bacon slices and place them on a wire rack in a shallow baking pan or rimmed cookie sheet or your broiler pan and rack and cook until slices turn golden-brown, which is in about 15 minutes. You don't even need to turn them."

I brought up the matter of the packaging of bacon, which many homemakers find unsatisfactory.

The companies are doing constant research on this, as most admit they have not yet found the perfect package. The machines are now geared to wrap the packages in cellophane, which tears easily; plastic envelopes are prohibitively high; foil hides the product.

"Some day we'll have the right answer," they assured me. "Until then, if the homemaker will just take a little time to read opening and re-wrapping instructions she won't have too much trouble."

"I'm sorry we haven't been able to give you definite reasons why you and your readers occasionally get hold of a disappointing package of bacon," the home economist summed up, when we parted, "but here's what I suggest:

"Find a brand of bacon you like, in the grade you prefer and can afford and buy it consistently. Then, if you get a bad package, return it to your store-keeper, with your objections and ask him to contact the company salesman. Or, better still, send the package directly back to the company, along with a report of your objections.

"Allowing for certain handicaps, we'll make a thorough, honest effort to find out the troubles and try to protect you from them in the future."

9104. Sew this easy style in less than a day. There's no waist seam to fret you; just nip with belt. Printed pattern in misses' sizes 10 to 20. Size 16 takes 5¼ yards 35-inch fabric. Price 35 cents.

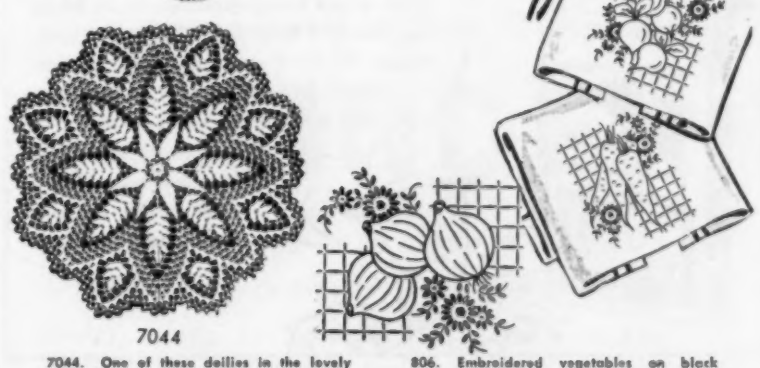
9280. Princess lines to slim the half-size figure. Button-front styling. Printed pattern in sizes 14½ to 24½. Size 16½ takes 4½ yards 35-inch. Price 35 cents.

9219. Cool little sun fashion with halter-neck style and whirly skirt. Sew a second version with raglan sleeves. Printed pattern in child's sizes 2,4,6, 8,10. Size 6 takes 2½ yards 35 inch. Price 35 cents.

4606. Half-size twosome. Dress has pretty yoke treatment; bolero for cover-up. Printed pattern in sizes 14½ to 24½. Size 16½ dress takes 3⅛ yards 35-inch fabric; bolero 1⅞ yards. Price 35 cents.

9238. Summer classic with convertible neckline and graceful gored skirt. Printed pattern in misses' sizes 12 to 20; 40 to 42. Size 16 takes 4 yards 35-inch fabric. Price 35 cents.

4632. Squared-neck sundress with princess lines. Button on the charming little collarette for city-going. Printed pattern in teen-age sizes 10 to 16. Size 12 dress takes 5⅛ yards 35-inch fabric; collarette ⅝ yard contrast. Price 35 cents.



7044. One of these doilies in the lovely fern design makes a choice gift; three make a charming luncheon set. Crochet directions for a 13-inch and 19-inch doily in No. 30 cotton. Price 25 cents.

806. Embroidered vegetables on black latticework make a cheerful sextette of kitchen towels. Easy stitches. Transfer of 6 motifs 5¼ x 6½ inches. Directions. Price 25 cents.

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Rakes hay in half the time

Two rakes on one tractor cut labor and power unit costs in half. Also reduces loss caused by bad weather.

by F. Leland Elam

DOUBLE hook-ups of hay rakes so that both are pulled by one tractor are used on two California ranches.

Both, although different types of rakes, offer a number of advantages that are worthwhile considering. Three of the main features are that pulling two rakes with one tractor cuts raking time in half, eliminates the cost of a second tractor, and requires the payment of wages to only one operator.

In districts where weather is quite often a threat to haying operations, the double rake idea can be used to speed up haying and prevent loss by bad weather. Another advantage is the speed-up allows irrigation water to be returned to the field sooner to step up growth.

Howard Beeman, who has extensive alfalfa fields and who besides growing it for his own stock, puts up hay to sell others, uses two side-delivery rakes in tandem behind the tractor. One rake is a right-hand delivery and the other a left-hand delivery. The right-hand delivery is hooked to the tractor. A bar riding square to the tractor is fastened to the rear of the right-hand rake. The left-hand rake is fastened to this bar at its left end in the proper position to start picking up hay where the right-hand rake left off.

A 16-foot swath is raked in this manner instead of the usual 8 feet. The hay swath is set up at the outer end of each rake.

On the McLeod ranch, 20 feet of hay is raked at one time. This is accomplished by the arranging of a right-hand, side-delivery and a left-hand, side-delivery, wheel-type rake so that they set in a "V" behind his tractor.

They deliver the hay out to the side and rear away from the tractor. To solidly rake the entire 20-foot width, the right-hand rake has seven wheels and the left-rake six wheels. They are hooked up so that the extra wheel on the right-hand rake picks up the alfalfa in front of sixth wheel on left rake.

The wheels turn when the spring teeth on their circumference touch the ground, each wheel thus being powered by itself. Each wheel is held in place by a spring and chain tension arrangement, and by readjusting the chain to different settings, the height of wheel operation can be governed. By this method, they can be raised high enough to allow transporting along roads or from field to field without the wheels turning. They also automatically adjust themselves for uneven ground because of the spring tension. The chain adjustment can allow the raising of any given wheel or wheels to give good raking on top or sides of check dividers.

This type of equipment is very practical and economical on a small ranch because it allows the owner to cut down on outside help by making it possible to do his hay raking chores twice as fast. It is quite desirable on large haying operations where hundreds of acres of hay are cut and put up, either stored or to sell, as the saving on machinery and labor costs, as well as operational time will amount to many thousands of dollars.

RAKING 20-FOOT SWATH with this double-wheel rake reduces labor required and may save a large operator hundreds of dollars.

A new disease

Cattle in Oklahoma area show skin sensitization after being fed rank, late-cut alfalfa. Exact cause being sought by research workers.

by E. A. Woelffer, D.V.M.

RECENTLY one of our readers from Oklahoma asked us about a disease in his state which causes cattle to die after being fed alfalfa hay. We didn't know about the condition so we contacted authorities at Oklahoma State University.

We were informed of a new disease which has suddenly affected over 300 ranches, and produced extensive losses in herds in Oklahoma and adjacent states during this past winter.

For the time-being, the new disease is known as hepatogenous photosensitization. This $64-name implies there is a sensitization of the skin by a substance produced in the liver.

When the skin is exposed to light, it turns dark in color and becomes blistered. Generally, cattle are first depressed and show a yellowing of the skin around the eyes and udder about five days to two weeks after the hay is fed.

Later the white portions of the skin become sensitized. At first, the affected skin becomes slightly reddened (inflamed). Later it dries ut and sloughing occurs.

The underlying cause of the new disease is not known. As previously indicated, it appears following the ingestion of first-cutting hay, consisting mostly of alfalfa harvested in May or June this past year.

Due to excessive moisture, a very luxuriant growth took place. Since the fields were wet, harvesting of the crop was delayed.

The alfalfa contained Johnson grass, oats, some hollow-stemmed grasses, and vetch but not in sufficient quantities to be considered responsible factors in the disease.

It was observed that many fields were heavily fertilized. The hay was very dusty, but contained no visible mold or extraneous material on the surface of individual plants. Black spots on the stems were found on some of the hay but similar spots also were observed on hay that proved to be nontoxic.

Dr. A. W. Monlux, professor and head of the veterinary pathological department of the College of Veterinary Medicine at Oklahoma, informed us the disease has been reproduced in cattle from six different outbreaks. It has not appeared in other farm animals, although investigators suspect that sheep and other ruminants are susceptible.

In an attempt to find the answer to this serious problem, researchers intend to observe the disease in sheep, guinea pigs, and rabbits.

It must be determined whether the responsible factor is a fungus, a bacteriological agent, or a toxin. It is likely to take months to perform the necessary tests to isolate the responsible factors.

When a new disease makes its appearance, suitable funds are not usually on hand for carrying on the necessary research work. This may be the case in Oklahoma. Due to the seriousness of this disease, livestock men and farmers in Oklahoma may find it to their interest to ascertain whether sufficient funds are available. If not, your wishes should be made known to your state legislators. The sooner funds are available, the sooner pertinent information will be forthcoming.

Based on the tentative diagnosis that water-damaged hay may produce toxic conditions, Dr. M. N. Riemenschneider, head of the veterinary division of the Oklahoma State Board of Agriculture, has advised caution in feeding such hay.

A suggested solution is to feed suspicious hay to a few of the least valuable animals before providing it to the entire herd.

Call your veterinarian early for a diagnosis. Animals often recover when the hay supply is changed.

"Next time I build a pole-type building, I won't dig the holes so deep."

How to invite depression

A man lived by the side of the road and sold hot dogs.

He was hard of hearing so he had no radio.

He had trouble with his eyes so he read no newspapers.

But he sold good hot dogs.

He put up signs on the highway telling how good they were.

He stood by the side of the road and cried: "Buy a hot dog, Mister."

And people bought.

He increased his meat and bun orders.

He bought a bigger stove to take care of his trade.

He got his son home from college to help him.

But then something happened...

His son said, "Father, haven't you been listening to the radio?

"There's a depression on.

"The European situation is terrible.

"The Domestic situation is worse."

Whereupon the father thought, "Well, my son's been to college.

"He reads the papers and he listens to the radio, and he ought to know."

So the father cut down on his meat and bun orders,

Took down his advertising signs,

And no longer bothered to stand on the highway to sell hot dogs.

And his hot dog sales fell almost overnight.

"You're right, son," the father said to the boy,

"We certainly are in the middle of a great depression."

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Vacooler has some new things coming for the small dairy farmer who is interested in an inexpensive pipeline system with automatic in-place clearing for pipeline and tank. Don't buy something today you may find obsolete tomorrow!
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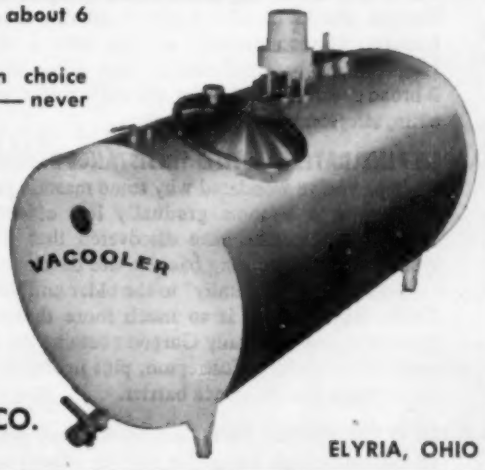

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GARGON PENETRATES MASTITIS "RESISTANCE BARRIER." Perhaps you've wondered why some mastitis products seem to become gradually less effective. Veterinary scientists have discovered that many types of mastitis-causing bacteria are developing a "resistance" or "immunity" to the older antibiotics. That's why Gargon is so much more thorough. Gargon is *new*, and only Gargon contains the *new* Squibb antibiotic, Thiostrepton, plus neomycin, to get through this resistance barrier.

GARGON IS COMPLETELY SAFE. Gargon does not depend on extremely high dosage for its extra effectiveness. Smaller amounts of the antibiotics in Gargon do a superior, faster clean up job.

COSTS NO MORE!

GARGON with PLASTIBASE® *treats the infected udder tissue—not the unsalable milk!*

Think of an infected quarter as an inverted bottle. (1) You milk quarter dry and instill Gargon. (2) As quarter fills, Gargon floats on milk, rising with it to bring full potency antibiotics in contact with vital upper tissues(3). As milk level drops at next milking, Gargon "clings" to udder tissues until infection is cleaned up (4) and (5). Gargon treats tissue, not milk!

You can prove this by adding a little Gargon to half-full bottle of warm milk. Shake. Notice clinging action. Compare with water-type product which mixes with milk to become more and more dilute as quarter fills. Gargon does not milk out prematurely. Unlike water, Gargon never freezes.

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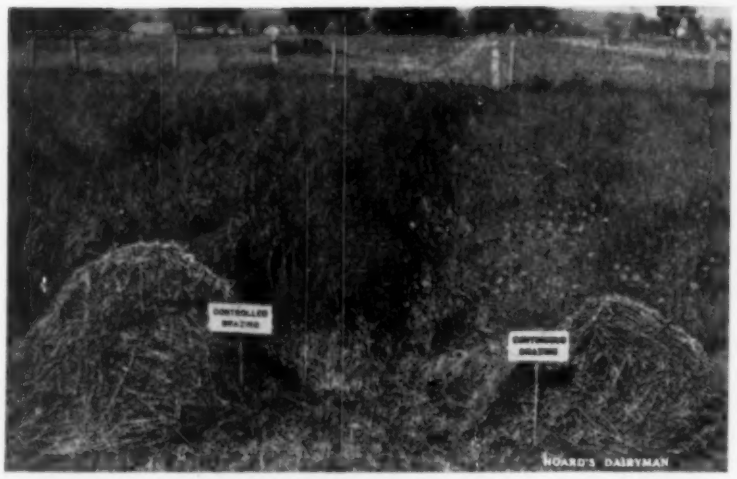

CONTROLLED GRAZING resulted in higher yields (2,970 pounds of hay increase) the following year as compared to continuous grazing.

How good are your pastures?

(Continued from page 537)

of a grass with round stems and fine, sharp-pointed leaves appear, particularly in most areas, it probably means that bent grass, a diminutive member of the redtop family, is encroaching. This grass is neither as palatable or as productive as bluegrass so that when bent grass appears, check the soil acidity and roll out the fertilizer spreader. When soil fertility levels are again restored, bluegrass will take over.

To produce double the feed . . .

We have come to depend upon semi-permanent pastures as the main source of pasture feed for the milking herd. Total yields of feed are high (almost double those of good bluegrass pastures), but what is more important, production in midsummer is relatively high. May and June will still be the high months on the monthly feed production curve with only a moderate dip for July and August.

With an average growing season on a good stand of Ladino-brome, we have harvested 1,400 pounds of feed (dry basis) on May 15; 1,800 pounds on June 24; 1,100 pounds on July 28; 1,050 pounds on August 5; and 600 pounds on October 13. This makes a total dry matter yield for the season of 5,950 pounds.

Unfortunately, such yields cannot be expected year after year. Given similar weather conditions, the first full year of production will be highest. The second year, yields will fall off 12 to 15 per cent and further reductions can be anticipated during the third and fourth seasons. All of the reasons for declining yields with increasing age are not clear, but certainly one of the most important is the appearance and rapid increase in the amount of Kentucky bluegrass, usually during third or fourth year of production.

The productive life of a Ladino-brome grass pasture is literally a race with Kentucky bluegrass. Destruction of the old sod before seeding, following a satisfactory program of liming and fertilizing both at the time of seeding and later for maintenance, together with a carefully-controlled system of grazing, will delay this invasion of Kentucky bluegrass but will not prevent it. When the Ladino clover plants lack vigor and an increasing number of plants look like ordinary white clover plants and small islands of Kentucky bluegrass begin to overpower the smooth brome, it is time to break up the old sod, plant a "cleaning" crop, and then reseed.

Start with a "clean" seedbed. If the area to be seeded is sod land, the first and most important step is to rid the land of weeds and weedy grasses.

Kentucky bluegrass is the most important weedy grass, but bent grass, rough-stalk meadow grass, and quack grass also are included.

If the old sod is not destroyed, these "weed" grasses quickly reestablish themselves from the live buried stems and stolons so rapidly that they rob the newly-seeded grasses and clovers of essential nutrients (especially potassium), moisture, and light. A new seeding so handicapped will be short-lived and will never reach its full productive potential.

Weeds and weedy grasses can successfully be controlled by:

1. Growing a cultivated crop such as corn.

2. Growing well-fertilized summer annuals as feed and smother crops, such as Sudan grass; or winter annuals, such as winter rye or field brome grass. These smother crops serve a dual purpose in destroying the weed grasses and producing substantial quantities of palatable, nutritious feed at times when additional feed is welcome.

Lime and fertilize adequately. There is no substitute for soil fertility. Plans must be made before seeding time to create and maintain high levels of soil fertility for the life of the seeding. Lime can be applied with advantage to the "cleaning" crop. The periodic use of lime is essential for most soils in regions of heavy rainfall, not only for the clovers but also for our more productive grasses.

In Massachusetts we have found that the phosphorus requirements of perennial grasses and legumes can be supplied at seeding time. A recent report from Oregon gives similar results for that area. Enough phosphate can be applied at seeding time for at least three to five years. This can be accomplished by the application of 800 to 1,000 pounds of 20 per cent superphosphate preferably in bands just prior to planting.

The reason that enough phosphate fertilizer can be applied at seeding time to last for several years hinges on two important aspects of the chemistry of soil phosphates. In the first place, soluble phosphates in acid mineral soils are rapidly made insoluble or "fixed" by forming compounds principally with iron and aluminum. Therefore, losses of phosphorus by leaching are negligible.

Secondly, plants utilize soil phos-

phorus at relatively uniform rates, regardless of rate of fertilization. The root systems of perennial grasses and legumes can release fixed soil phosphates at a rate which will meet the growing needs of the plant, but not in excess.

The behavior and use of potassium fertilizers is markedly different. Most potassium fertilizers are quite soluble. Leaching losses can be substantial. More important than leaching losses, however, is the tendency for plants to feed heavily on potassium if large amounts of available potassium are present in the soil. This excessive or "luxury" consumption of potassium by plants not only results in very inefficient utilization of potassium fertilizers, but also reduces the intake of calcium and magnesium, thereby lowering the feed value of the forage. To prevent this situation from developing, it is necessary to **apply potassium fertilizer in small but frequent applications.**

There is another even more basic and important reason for this procedure. Grasses, in general, will thrive at lower levels of available potassium in the soil than legumes. In order for the legumes to get adequate quantities of potassium in competition with the grasses, it is necessary to maintain relatively high levels of available soil potassium throughout most of the growing season.

We have often characterized most legumes, Ladino clover and alfalfa, for example, as having high potassium requirements. It would be more correct to say that relatively high levels of available potassium must be maintained in the soil before these legumes can secure the potassium they need for optimum growth. With our low potassium soils in Massachusetts, an application of 100 to 125 pounds of muriate of potash after each grazing is suggested for optimum results. In practice, at least two applications yearly are made, sometimes three.

Carefully-controlled grazing is all important. "Manure right, sow right, and manage the grazing animal wrong, and you are nowhere," wrote Sir George Stapledon in 1937. Although we now recognize the great importance of careful grazing management, we still have much to learn about the management of individual grasses and clovers for maximum performance.

The basic underlying principle of good grazing technique is to remove herbage from a given area as quickly and as evenly as possible. After the herbage has been removed, the plants are allowed an uninterrupted period for recovery.

Tall-growing, high-yielding grasses and legumes recover quickly and soon regain substantial height. In this way they serve as an effective smother crop for weeds and "weed" grasses.

Also, by quickly re-establishing a good ground cover, soil temperatures are reduced. This in turn results in more favorable soil moisture relationships. Both conditions stimulate more plant growth.

With these principles in mind, it is obvious that the strip or rationed grazing method whereby the grazing animals completely graze a new area each day or the "zero" grazing method where all harvesting is done by machine, represent the ultimate in grazing technique.

Some years ago, the late G. W. Robinson, a noted British soil scientist, wrote, "If the fundamental principles of the soil are understood, you . . . will find their applications to practice." This same philosophy applies to the whole field of pasture culture and management. The more we study, observe, and find out why, the better we will know how. Because of basic research by investigators in all parts of the world, our practices are better now than they were 10 years ago. For the same reason, we hope and expect that they will be still better 10 years from now.

THE END

Conception rates studied

Recent studies have shown that conception rates in artificial breeding are linked with management practices. Dr. H. J. Bearden of Cornell University investigated the records of local A.B. associations affiliated with the N.Y.A.B.C. and found that during the winter months conception rates were significantly below those of the rest of the year.

Working with records of over 100,000 first services in 4,500 herds it was shown that in the period November 1, through March 31 the rate of nonreturns was 68.7 per cent as compared with 72.4 per cent for the rest of the year.

The number of times a day the cows are turned out of the barn during the winter is related to the conception rates. In herds turned out twice a day there were 70.4 per cent nonreturns, in those turned out once a day 69.5 per cent, and in those not turned out at all 64.1 per cent. The number of nonreturns decreases as the frequency of turning the herd out diminishes.

In a herd where the cows are turned out more often the dairyman has more opportunity to detect signs of heat and to insure the proper timing of insemination.

When the number of cows in the herd was compared to the nonreturn rate, it was found the smaller herds had the higher percentage of nonreturns and larger herds the lower.

Nonreturns ranged from 70.5 per cent for herds of 10 to 19 cows, to 68.3 per cent for herds of 40 to 49 cows, to 65.6 per cent for herds of over 60 cows.

In the smaller herds more individual attention is given to each cow, resulting in more accurate detection of heat and increasing the likelihood that insemination will be done at the correct time.

—STEVEN BRETH

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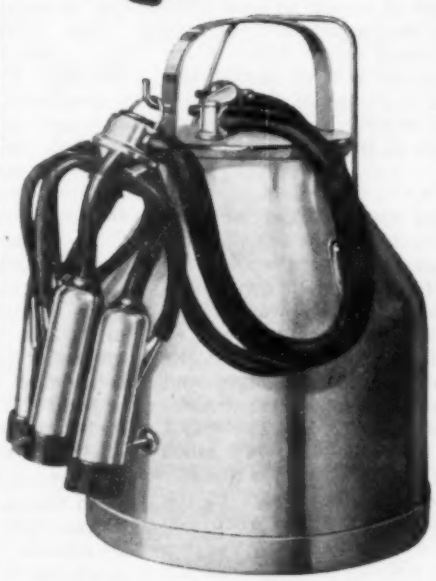

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YOUNG DAIRYMEN — *Careers in agriculture* — No. 32

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"FARMING . . . it's a good life"

"I don't know of one Vermont dairyman, for all his complaints about cold weather, snow, and rocks, who would leave his acres unless he was forced to do so."

by Charles Sargent as told to George Fremault

LIKE most boys reared on a family farm, I had chores to do from the time I could walk. And as far back as memory goes, the one ambition of my life was to follow the same life in the same Vermont hills that members of my family had lived for four generations before me.

Probably you have never heard of East Cabot. It is a tiny village of scattered farms in northeastern Vermont where the growing season is comparatively short and heavy snow blankets our somewhat rocky soil five months of the year.

Almost all of us are dairymen producing milk for the Boston market. Ours are family-unit farms of from 25 to 60 head of milking stock. Mostly, we raise our own hay and silage and purchase grain. In addition to dairying, farmers in this region cut and sell pulp wood from our own land in the winter and tap and process sugar maples for syrup in the early spring.

Would not move . . .

It might appear to a non-farmer that we Yankees in these hills could live a lot better with much less work in fewer hours by moving into the city, or even to agricultural areas where the soil is richer and free of a heavy stone crop. Perhaps! But, I don't know of a Vermont farmer (for all of his complaints about weather and rocky soil) who would leave his acres unless he was forced to do so.

Much has been said about the decrease in the number of small farms throughout the United States. One explanation among the men I have heard has it that youngsters in farm families are eager to leave for careers in business and industry. This is true in some cases, of course, but I have talked to hundreds of fellows my age here in Vermont and in the Midwest who say that the reason they plan to leave farming is a lack of financing to establish a place of their own.

It takes a great deal of money, at least $10,000 in this region, to buy, equip, and begin to operate even a very small farm. Where there is more than one boy in a farm family, the other or others have a choice of doing farm labor for an owner or moving to an area where higher pay is available in industry.

Farming first choice . . .

Almost all the boys here in Vermont from farm families graduate from high school. Few of them want to work on a farm merely for wages. If they had farms of their own, I am almost certain a great majority would work them rather than select some other career.

I am one of the fortunate members of the younger farm generation who manages and operates his own farm and I have done so since my father's death when I was 13. The way I feel about farming is, I imagine, very much the way most farm kids do: There is a wonderful sense of being at the very heart of the scheme of things in American life when you produce and market a basic food.

Most of us in this country today are security-conscious. Who has a greater sense of security than we farmers? Despite threats of weather and disease, we know that now and tomorrow our milk, our beef, our pork, our poultry, and our crops are a necessity to maintain in good health the mounting population of the United States and other countries, too.

Not a monotonous job . . .

I have never known boredom as a farmer. There is so much of so many varied types of work facing me almost daily that it would be almost impossible for me to tire of this life I lead. In accomplishing our objectives as modern farmers, we must have a working knowledge of bookkeeping, carpentry, plumbing, masonry, and many other trades.

Few, if any, occupations other than farming can offer equal opportunities in vocational training. For that reason and because of the self-reliance which is developed by farm life, a young man of agricultural background in this era remains on a farm because he wants to do so and because the opportunity for remaining is available to him. I don't believe this was nearly so true a few years back.

My mother and I had the choice between farming and non-farming life after my father's sudden death five years ago. By selling our place and taking one of the many job opportunities in a Vermont city, it might have been a bit easier for her than the choice we made. I believe her decision was based on her knowledge of the fact that I wanted to stay on the farm and live the life our family had known on these very acres for more than a century.

We were very lucky to have the help of our good friend, Fred Bumps, who still is with me as my right arm. His never-failing humor and downright good sense have been invaluable since the day five years ago I took over management and operation of our 30-cow set-up.

Long hours . . .

The years until I graduated from Danville High School last June were hard but good ones. Milking began at 5 a.m., then a 15-minute ride to school and the return home at 3:45 p.m., for the evening milking. Saturdays and Sundays were busy days on the farm, with time out for church services. The only passing regret I felt during those years was about basketball. It wasn't possible for me to take time out to try for the Danville High School team.

One of the greatest aids to me in those school years was the F.F.A. chapter in high school. There certainly should be more of them in our rural schools. My chapter advisers helped me a great deal when the going was tough and I was in great need of expert counsel.

I have maintained my interest in the Future Farmers of America and now I am fifth vice-president of the state of Vermont. There will never be a time when I shall be able to say I know everything there is to know about working a Vermont farm. I spend at least eight hours a week reading technical journals and attending lectures or demonstrations where new information is available.

Goal is 50 cows . . .

My milking herd is made up of 28 Jerseys and two Holsteins but a 50-cow herd is a goal I have set for 1959. To take care of the additional milkers, I plan to construct a basement stable. I am particularly interested in quality stock and our breeding program is aimed to improve our herd every year.

Fred Bumps and I have had a busy time of it since my graduation. Our land renovation program has been a major project because the soil here is not particularly rich after so many years of constant use. One 12-acre section, which had been a pasture, has just been turned over and will be harrowed and worked this spring. We plan to seed it to oats, barley and peas as a cover crop. This cover crop will be cut for silage in the spring. Clover and timothy have done well for us and we expect to continue with it in this field for two or three years after seeding.

Although all of our hay and ensilage is raised on this land, in the past we have planted only a few acres to oats and barley for the grain itself. Growing conditions in this section of Vermont, I believe, are not suitable for other than roughage feed and I don't intend to produce any grain in the future.

My carpentry and masonry experience was increased this past summer with the work Fred and I did on both houses (Fred and his family live in the other), as well as on the barn. We reshingled the roofs. Then we had a carpenter completely do over the kitchen in the main house. They redug the cellar of the second house and did both shoring and cement. That house has stood the strain of many years admirably except for its foundation, but now we feel it is ready for several more generations of family life.

A badly-needed trench silo was built three years ago. Our farm pond was also built three years ago during my summer vacation from school. This pond is holding back water to help prevent soil erosion. It can be used for irrigation and would be an excellent source of water in case of fire.

Our land renovation, rotational grazing, fertilization, and supplemental feed programs during this past year apparently met the approval of experts. I was named Vermont's Future Farmer last August and, two weeks later at the Eastern States Exposition held in Springfield, Mass., the North Atlantic Region Star State Farmer title came my way. In addition to the honor itself, I received the opportunity to compete against three other regional winners for national recognition as a dairyman.

The Eastern States Exposition trip served as a honeymoon for Norma Bumps, Fred's daughter, and me. We were married just one week earlier. Norma has always lived on a farm and firmly believes no other life can compare with the one we have chosen nor would she select another part of the country.

We drove to Iowa late in September and were fascinated by Midwestern farms lining the highways into Waterloo. That rich and stoneless soil and those wonderful crops were beyond anything we had imagined. If only there were hills greened with the rich color of spruce and maple, perhaps that great farming country would have been irresistible to us. It must be that we are Vermonters at heart.

National Dairy Farmer . . .

The Hippodrome will always represent to me the scene of my greatest thrill. It was during the National Dairy Cattle Congress there that, unbelievably, I heard Mr. Jerry Litton announce that Charles Sargent of East Cabot, Vt., had won the National Dairy Farmer Award.

There was much to do at home and Fred was mighty happy to see us back when we drove over that last mile of rutted, but beloved, dirt road to the farm.

It is a good life and perhaps some day the wiser heads of our nation may find an answer to the problem of what can be done to make it possible for more young people to share in its benefits. **THE END**

Artificial breeding data give quickest sire proof

The butterfat and milk production of a dairy bull's first 20 to 30 daughters produced by artificial breeding gives a reliable indication of the production of the rest of his offspring, according to University of Wisconsin research. And not much accuracy is gained by using a larger number of daughters to prove a sire.

Dairy scientists A. G. Sendelbach, E. L. Corley, and E. E. Heizer say artificial breeding proofs are generally better indicators of the production of future artificial daughters than are proofs made with naturally sired daughters. Natural service proofs are about one-half as effective as artificial proofs in predicting future performance of artificial daughters.

That's because the naturally sired daughters are likely to be in only one or two herds that are above average, while artificially sired daughters will ordinarily be spread throughout many herds. Thus the production of the artificially sired daughters will be influenced by a wide variety of environmental conditions, which are similar to the conditions under which the sire will be used in an artificial breeding organization.

At present, most sires are proved by natural service, even though they are destined for use in artificial breeding studs.

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SWINE

by F. J. Giesler

Reduce losses from parasites

Prevention is the best cure. Use combination of good pasture management and available drugs.

SURELY the best cure for the parasite problem is to prevent pigs from coming in contact with worm eggs at farrowing time. For that reason special attention has always been given to this phase of management by the real good hog men who like to see the small pigs keep on growing from the time they are born.

Some interesting figures from the U.S.D.A. indicate that over 8 per cent of the hog crop, amounting to $275 million, is lost each year due to parasites. This tremendous loss can be cut down to a minimum by following a preventive program.

Since young pigs pick up the worm eggs from the soil or hog lot that is infested with eggs where hogs have been allowed to run, it is important that you design a management program to prevent your pigs from coming in contact with parasite egg infested lots.

High-quality legume pastures, where hogs have not been for at least a year or more, will give the young pigs a relatively free area on which to graze. New equipment in use by the hog industry today makes the task of moving the hog operation out to clean fields much easier. Large capacity self feeders, automatic watering systems, and portable shades when natural shade is not available have all made rotation pasture possible.

Experimental data from a number of universities show that these pastures can carry 20 to 25 pigs per acre from weaning to market weight. Good pasture will save from 10 to 20 per cent of the required protein during the period the pigs are on pasture.

When speaking in terms of a preventive management system, never wait to treat the little pigs for parasites until you can see evidence of them. Pigs should be treated every 50 days to break the life cycle of the large roundworm, which completes its life cycle about every 60 days. There are a number of different drugs that can be used to prevent the large roundworm from doing serious damage to your pigs.

Hygromycin . . .

The most recent drug or antibiotic to be used is called hygromycin. According to Dr. A. C. Todd of the University of Wisconsin, this new product gives the best all-around control of internal parasites. It is recommended to be used in the mixture of the concentrate at 20 milligrams per pound of feed. This drug affects the reproductive cycle of the parasite and stops them from reproducing. It is safe and palatable when added to the feed supply.

Piperazine . . .

You can obtain this wormer either in the soluble or insoluble form. This makes it possible to give it to your hogs by including it in the feed or water. Piperazine is administered according to body weight. Therefore, you must know about how much feed pigs of various weights will consume.

As a rule of thumb, pigs will consume about 5 per cent of their body weight of feed per day. On this basis, each 100-pound pig would eat about 5 pounds of feed mixed with piperazine.

When the water soluble form of piperazine is used in the drinking water, the following water consumption table will serve as a guide:

Wt. of pig		Qts. water per pig
25-50	Pounds	1-2½
50-100	"	2½-4
100-150	"	4-5
150-200	"	5-6

Most products come with instructions for dosing. These are usually based on the following recommendations: 125 milligrams for each 2.2 pounds of body weight.

Sodium fluoride . . .

Sodium fluoride is the old standby, which is about 95 per cent effective in removing roundworms from hogs. Since this drug is a poison, it should definitely be marked accordingly and kept in a safe place. Over-dosing the animals may cause death.

Sodium fluoride is inexpensive, and the treatment is made by adding the drug to the regular ration. Caution must be taken to be sure that this drug is mixed uniformly in the ration. A mixture of sodium fluoride and grain is fed for one day only.

If you now slop feed your hogs, you will need to put them on dry feed for a week or more before adding the sodium fluoride to worm your pigs. Because it is dangerous, it is not recommended to feed sodium fluoride in the slop feeding method.

It is important to sort your pigs according to size when using this drug in order that each pig will get his fair share of the feed containing the worming material.

Young pigs should be fed a mixture of dry grain and sodium fluoride as follows: 100 pounds of regular grain ration and ¾ pound of sodium fluoride. This mixture will take care of 40 weanling pigs for one day. Be sure to put your pigs back on regular feed one day after treatment. Feed containing sodium fluoride that may be left over should not be given to pregnant sows or pigs showing signs of intestinal diseases.

Satisfactory parasite control has enabled swine men to produce hogs that will reach market weight at an earlier age and with a greater efficiency in converting feed into pork. Today with these new drugs, it is much easier to control internal parasites of hogs without the risk of slowing down the gains.

Give your hogs running water this summer with a pressure water system.

HANDY HINTS

SWIVEL TRACTOR SEAT

Tractor fatigue can be reduced by switching this seat for your regular one when plowing. Seat will turn in any direction. Vertical shaft telescopes for springing action.

This seat was built by I. J. Freeland, Macon County, Illinois.

ILLINOIS C. F. MARLEY

PORTABLE ROOST AND SHELTER

David Hull, Ohio, shown beside a portable combination range shelter and roost made from an old wagon. Roosts are made on both sides of roof. In bad weather, turkeys find shelter under roof and roost on wood strips laid across wagon bed. To move to new range, Hull merely hitches tractor to wagon tongue.

OHIO JOHN KRILL

PORTABLE FENCE STILE

This all-steel "bridge" allowing easy access over any type of fence is portable. The entire step is a welded affair, using old 2-inch pipe for the standards, and ¾-inch pipe for the steps and guard rails. It can easily be carried by two men, and will last indefinitely, if kept painted.

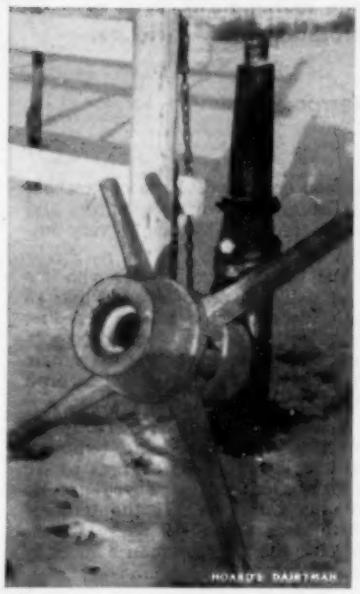
ILLINOIS GROVER BRINKMAN

USE FOR INFLATION

To put water in tractor battery and oil in the motor or hard-to-get-to places, I put a milk inflation on a quart or pint bottle.

KANSAS JOHN L. STEPHENSON

REVOLVING GATE



This gate is made by sinking an old wagon axle into the ground. We removed the rim from the wheel, and cut off all but four evenly-spaced spokes. The wheel is placed over the axle.

NORTH DAKOTA DENNIS SCHAAN

OUTDOOR GRILL

An easy-to-make outdoor grill was constructed by Doug Kavanaugh, Wisconsin. It means no low stooping when preparing charcoal hamburgers and steaks. The grill is waist high and welded to a hollow pipe that sets inside another pipe and allows it to be turned in the direction desired according to the way the wind is blowing.

It's an economical grill for the backyard. The pipe is set in concrete to make it sturdy. Stove grates may be used for the top.

WISCONSIN WALLY SCHULZ

Farmers are born gamblers . . . not by *choice* but by *necessity*. You gamble on the *weather* and you gamble with *time* . . . and finally you gamble on the price you hope to get for your crop.

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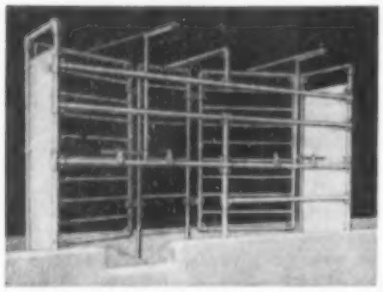

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Superior feeding arrangements are available for Louden milking parlor stalls. Manger puts cow in natural position for eating. May be used with or without "Measure-Matic" Feed Meter. Cast iron manger easily removed for thorough cleaning.

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ARTIFICIAL BREEDING

For best results with FROZEN SEMEN . . .

. . . allow only well-trained men to handle it. Even a slight deviation from correct procedure invites failure.

by H. A. Herman

THE use of frozen semen by organized artificial breeding organizations is giving good results and most dairymen like the program. On the average, dairymen are getting from 65 to 70 per cent of their **healthy** cows settled the first service, and they have a better chance to use the bull of their choice.

Not so pleasant, however, are results of random selected matings where frozen semen is shipped to a breeder who has never used it before, or who entrusts the use of this frozen semen to his inexperienced herdsman or veterinarian.

Usually the breeding association, and in many cases private breeders who are freezing and dispensing semen have done their jobs well. While they receive the criticism, they often are not to blame. It is our opinion and observation that many private herd owners who are using frozen semen today are not getting good results because **the semen is unknowingly mishandled!**

Obviously, any breeder who buys semen by the ampul (and that's the way it generally sells) from an outstanding bull, expects to get a fair share (55 to 75 per cent) of the cows inseminated in calf. This is not an unreasonable goal. It is attained regularly where good quality frozen semen is properly handled.

Most of the artificial breeding organizations that are using frozen semen 100 per cent, or nearly so, are settling on the first insemination about 7 out of 10 cows serviced. In the field, frozen semen, where properly handled and used by trained technicians, is equalling the results from liquid semen.

Precautions . . .

1. Frozen semen must be viable when thawed and contain about 10 million live sperm per cubic milliliter. Experienced organizations know that 15 to 40 per cent of the sperm may be inactivated by the freezing process. To offset this loss, about 20 to 30 per cent more than the usual number of sperm are frozen in each ampul.

2. Some bulls, possibly one-third of those in use, produce semen that will not maintain satisfactory fertility after undergoing the rigors of freezing. Experienced operators study the semen quality of the bull and his settling rate. Poor ejaculates of semen are discarded, and only the best are frozen.

3. One mistake breeders often make is to wait until a valuable bull becomes crippled or sick before placing his frozen semen in reserve. Injuries and sickness often are accompanied by lowered fertility.

4. Skill and experience are needed for successful freezing of semen. Highly fertile semen may be reduced in fertility by the freezing method employed. Rate of freezing particularly between -5 degrees and -15 degrees Centigrade is very important.

For the average breeder who has a valuable sire, it is advisable to have his nearest artificial breeding organization collect, evaluate, process, freeze, and store the semen. This service may be arranged on a "custom basis" at a fair cost.

5. Once the semen is frozen it must be maintained at temperatures of at least -75 degrees to -79 degrees Centigrade. There are no halfway measures. If the temperature rises above -70 degrees Centigrade, the entire semen bank may be lost.

Using frozen semen . . .

1. The stored semen is maintained at -79 degrees Centigrade, in a suitable storage chest which permits the ampuls of semen, arranged in trays, to be surrounded by alcohol and dry ice. Indestructible labels and arrangement of ampuls from each sire are important.

2. Small amounts of semen (such as 15 to 25 ampuls for use by a technician, or a few ampuls which a breeder may want to take to his farm for routine use over a few days or weeks) are removed from the central storage and placed in an insulated container, usually a one-gallon vacuum bottle, with dry ice and alcohol covering all ampuls.

3. The ampuls to be used are removed, by means of tongs, from the dispensing container or field container only as they are needed. **The entire tray or container should never be taken out of the freezing mixture — even for a few seconds — until semen is to be used.**

Some breeders are using containers and methods whereby all the ampuls are warmed up when one ampul is removed. This is a much neglected point and accounts for some failures.

4. To use frozen semen, the ampuls to be used immediately are removed from the storage container and placed in a cup of water, at 5 degrees Centigrade a few minutes.

The semen should be used immediately after thawing. Even after a few hours it is lowered in fertility. Once the entire batch of ampuls are thawed out they must be used immediately or discarded.

Best results from frozen semen come where technicians or veterinarians who have had experience with frozen semen and appreciate the importance of temperature control are employed. Many private herd owners who are not patrons of artificial breeding associations can obtain the help of the local technician by making arrangements through the breeding organization employing him.

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EXPERIENCED DAIRYMAN, married, for milking registered Holsteins in parlor. Good pay, modern housing, heat, utilities, milk and meat furnished. A large modern dairy farm with the latest equipment and methods. Fifty miles from Chicago. Please give past experience, references, and size of family. BOX 79, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

EXPERIENCED HERDSMAN, for large registered Holstein herd in southern Wisconsin, near town, church, schools and store. Good modern eight room home with full size basement. Prefer man thirty to forty-five years of age with good education and ability to get good production. If not qualified please do not apply. BOX 82, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

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HERDSMAN desires position in Southeast. Experienced in artificial insemination and all phases of herd management. Prefer large operation. Excellent references. BOX 72, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

FARM MANAGER, Herdsman, 28, veteran, family. College degrees. Prefer New England. Available September 1st. BOX 81, care Hoard's Dairyman, Fort Atkinson, Wis. 10-2

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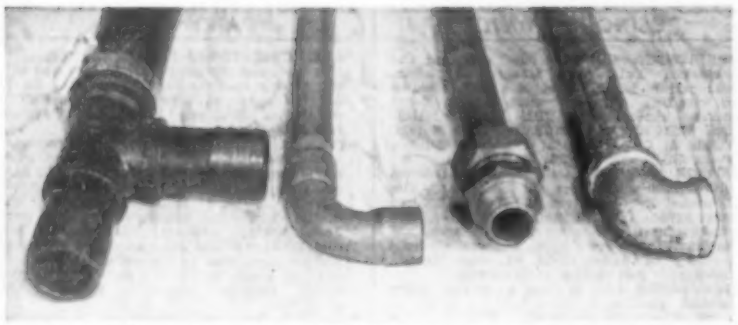

WATER PIPES can be made from the following materials. Left to right are plastic, copper tubing with solder-type fitting, copper tubing with compression-type fitting, and galvanized iron pipe.

Ways to pipe water

When planning your system, consider cost of the material, ease of installation, durability, and also possible code restrictions.

by Gordon P. Barrington

AN ADEQUATE source of safe water and a suitable pump will solve only part of the water supply problem on the dairy farm. In some cases, treatment to remove hardness, iron, or other undesirable minerals may be needed.

Whether the water is treated or not, every farmstead will need a system to carry the water to the places where it will be used.

The materials now in common usage are galvanized iron pipe, copper tubing, and plastic pipe.

In general, for a given size, galvanized iron pipe will be least costly; usually plastic pipe will be slightly higher, and copper tubing will be the most expensive. Remember, the cost will be modified somewhat by the number and type of fittings needed for the job, so be sure to include them in your estimate.

Copper tubing or plastic pipe usually require less labor to install than does galvanized iron pipe, so they may be cheaper for a particular job even though the cost of material is higher. In some cases where plumbing is put into existing buildings, it may be necessary to use copper tubing or plastic pipe. These materials are somewhat flexible and may, therefore, be worked around obstructions in walls.

Copper or plastic may be desirable for long outside runs as these materials usually are available in lengths great enough to complete the run without the necessity of using couplings which would have to be buried.

With respect to durability, galvanized iron will have the greatest physical strength and resistance to accidental damage. If the plumbing must be located where damage could easily occur, then galvanized iron would probably be the best material. Corrosive action of the soil or the water itself will usually be less severe with copper than with galvanized iron.

Plastic pipe has very good resistance to corrosion and is not affected by electrolytic action which may damage metallic material. If your own past experience indicates that corrosion, due to soil conditions will be a problem, then plastic would be a logical choice for underground runs between buildings. Such runs are expensive to replace if a failure should occur, so durability should be the primary consideration in selecting the material.

The author is a professor of agricultural engineering at the University of Wisconsin.

Check plumbing code . . .

In some areas the local plumbing code may specifically require or prohibit certain materials. To be sure that your system will be acceptable to health authorities, the code should be consulted before the final decision is made.

Plastic materials for use in water systems are relatively new. We don't have the experience with them which we have with the metallic materials, however, extensive tests indicate that these plastic materials will be very satisfactory. At present the use of plastic is limited to cold water lines.

Plastic pipe is made in various strengths or wall thicknesses. Be sure the one you buy has sufficient strength to carry the pressure you want to use. Many plumbing codes have restrictions on the use of plastic materials. These should be checked.

The National Sanitation Foundation has a testing program for plastic tubing and pipe, and authorizes the use of the National Sanitation Foundation symbol on plastic material which meets their specifications. Some codes require that any plastic material used must be approved by the N.S.F.

Even though your local code does not have this requirement, you should insist on approved material, if you plan to use plastics.

Use proper size pipe . . .

The pipe or tubing should be large enough to insure a full flow from the outlets connected to it, but no larger than necessary in order to keep the cost to a minimum. The proper size of pipe depends primarily on the amount of water which must be carried, and on the length of the run.

When water flows through a pipe, friction between the walls of the pipe and the flowing water tends to resist the flow. Energy is used to overcome this resistance. This results in a loss in pressure. In a given pipe the greater the rate of flow the greater the velocity, which results in a greater pressure loss.

To keep the pressure loss to a reasonable amount the pipe will have to be larger for large rates of flow than for small rates. For a given rate of flow the total pressure loss will be greater in a long run than a short one. Therefore, long runs must be made of larger pipe than short runs for the same rate of flow.

Copper tubing or plastic pipe usually have a very smooth wall and will offer less resistance to the flow of water than galvanized iron pipe. In the larger sizes and long runs it may be possible to obtain satisfactory service from tubing of a smaller size than if galvanized iron pipe were used.

In most farm installations, however, the decrease in friction is not sufficient to warrant a reduction in size when using tubing. The following table can, therefore, be used in determining the size for any material. The table is based on a maximum pressure drop of five pounds per square inch.

Each outlet is assumed to be flowing at the rate of four gallons per minute. In determining the number of outlets, consider only the maximum number which are apt to be flowing at one time.

For example: In the house we might have water being drawn in the kitchen, bath, and at a sill cock for a garden hose simultaneously. We would not be apt to have more than three outlets open at once, so we could calculate the feeder to the house on the basis of the three outlets.

Where stock-watering devices are used, several may be open at once but this type of outlet will have a low rate of flow. We may estimate the total number of such outlets which are apt to be open at one time, and divide this number by three to get the equivalent in four gallon outlets.

In a borderline case it might be possible to allow slightly more than five pounds per square inch pressure drop to reduce cost.

In planning the water distribution system, remember that it will be used for many years. Care in planning will result in years of good service. The dealer who supplies the materials for your system will usually be a good source of advice.

Pipe size to use for given runs and number of outlets

	Size	Length
One outlet	½ inch	up to 43 feet
	¾ inch	43 to 164 feet
	1 inch	164 to 537 feet
Two outlets	¾ inch	up to 48 feet
	1 inch	48 to 153 feet
	1¼ inch	153 to 595 feet
Three outlets	1 inch	up to 73 feet
	1¼ inch	73 to 273 feet
	1½ inch	273 to 595 feet
Four outlets	1 inch	up to 41 feet
	1¼ inch	41 to 158 feet
	1½ inch	158 to 336 feet

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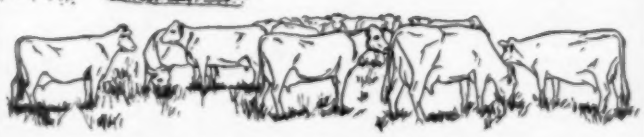

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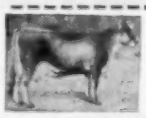

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70 CHOICE HOLSTEIN HEIFERS

bred for early fall freshening. 60 open heifers—mostly artificial breeding. Calfhood vaccinated. Bred for production.

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GLADBROOK IOWA
SATURDAY, JUNE 14, 1958

Farm located 1 mile South of Gladbrook, Iowa.

65 REGISTERED HOLSTEINS

GREAT PRODUCTION and FOUNDATION BREEDING

Herd Averages

13697	3.7%	513
12288	3.78%	465.4
11021	3.83%	422.2
11380	4.0%	453.9
12318	3.7%	458.8
11716	3.7%	494.8
13704	3.7%	489.4
13698	3.4%	464.4

In this herd you will find daughters of bulls like Rock River Commodore, a proven son of the World Record Holstein Cow Haven Hill Crescent Gewina Count "Ex" 365d 8y 3X 38878 3.9% 1523 and daughters of Zarnowski Super Lad "VG" from a "VG" 711 lb. fat dam, Pabst Roamer Dean Walker Lad "EX-GM" and the Service Sire of the herd is a son of Wis Leader "EX-GM," he is Tailcorn Pabst Leader from Tailcorn Transmitter Kay Burke "VG" with 13260 4.3% 581 lbs. fat.

T.B. TESTED—BANG'S TESTED—CALFHOOD VACCINATED

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PIPER BROS. Sales Managers WATERTOWN, WIS.

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11 A. M. D.S.T. June 7, 1958
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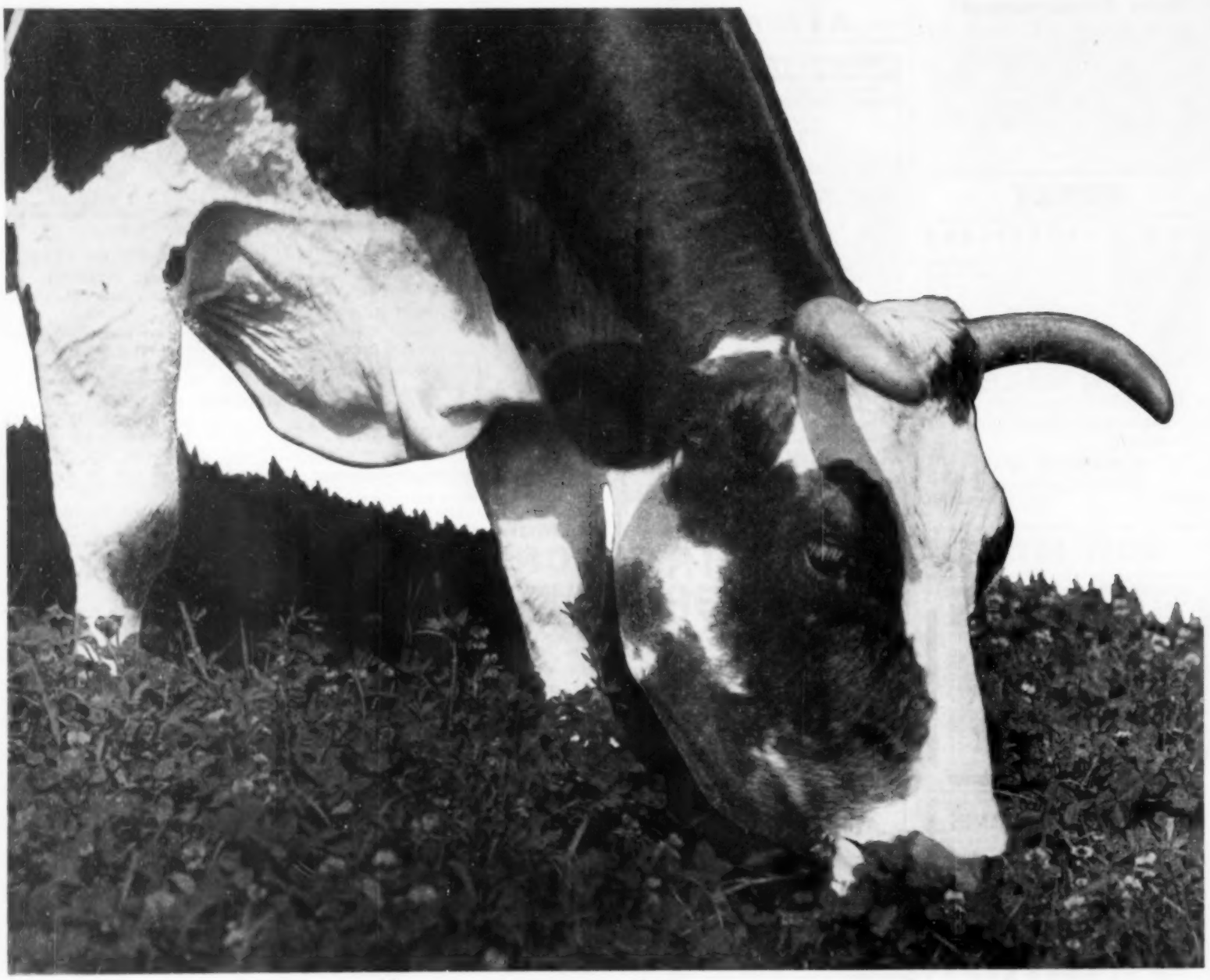

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With replacement costs an increasingly important factor, practical dairymen the country over are joining the big swing to REGISTERED HOLSTEINS . . . the big, rugged black and white cows with inherent lasting power.

REGISTERED HOLSTEINS have been bred to produce and reproduce at a profitable clip over a long life span. And that adds up to extra income for you.

Sign of the Times

Other things being equal, the cow that lives to produce 100,000 lbs. of milk earns more than two or three animals that fade out of the herd after a few lactations.

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To date, 868 of these have reached or surpassed 150,000 lbs. Eighty-two REGISTERED HOLSTEINS have produced upwards of 200,000 lbs. of milk — eight times the estimated lifetime output of the average dairy cow.

Remember, too, that these very impressive statistics represent cows enrolled in official production testing programs. Hundreds of additional REGISTERED HOLSTEINS have compiled similar lifetime records on DHIA.

Registered HOLSTEINS *Breed of the Times*

fit the farm . . . fit the market

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FRASEA IDEAL PILOT
"Very Good" Gold Medal Sire

PILOT IS NOW GOLD MEDAL

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He qualified for his Silver Medal Type award on the first classification of his two-year-old daughters and now has an average of 85 points on 25 classified daughters. This is all the daughters that were old enough to classify at the time of the last classification program in this area.

Twenty-one (21) daughters now have 26 completed records. They average 15,438 lbs. of milk, 577 lbs. of fat with a 3.74% average test on a 2x 305 day mature equivalent basis. This is an increase in milk, fat and average test over their dams. It is also 26 lbs. of fat more than required to qualify for his Silver Medal Production medal.

Pilot is sired by a great breeding son of Frasea Leonora Wayne. His dam, a great brood cow in her own right, is out of a daughter and sired by a grandson of Leonora and Butter Girl's sire. Pilot is backed by the same long lived, regular breeding animals that we insist on in all our herd sires and replacement females.

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Holsteins bull calf born 12/29/57 marked ¾ white, son of Mancryco Dictator Gallant, whose dam has 745 fat, 20048 milk, 3.7% Jr. 2 yr. The dam of above calf has 829 fat, 19835 milk, 4.2%, 5 yr. old. Her dam had 1027 fat, 25109 milk, 4.1% Jr. 4 yr. old, state record and price $600, f.o.b. Yankton.

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300 HEAD of DAIRY COWS

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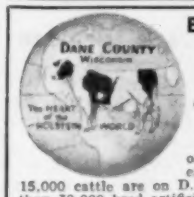

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in the heart of Wisconsin's dairyland. Eight counties with over 300 purebred breeders. Choice purebred and grades, also good registered service age bulls. Burke and Homestead breeding predominant. **Fieldman Service. Write, wire or call G. J. STANCHFIELD, Fieldman, Phone W. A. 25264, 30 Champion Ave., Fond du Lac, Wis.**

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If you're looking for cows or heifers come to Dodge County where good Holsteins are raised. Buy them first-handed and save expenses. We have 250 head of bred and springing grade and purebred Holstein cows and heifers on hand at all times. Can furnish transportation for any number large or small.

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We offer Ear Tag 1416, born 11-8-57, a top individual marked ¾ black. His 7 nearest dams average 20,795# milk 4% test 831# fat, 4 on 2X. His sire is Carnation High Tide "Very Good." His daughters are making outstanding records up to 547# fat at 2 years. High Tide is sired by Carnation Homestead Revelation, "Excellent," "Gold Medal" and out of a 4% granddaughter of Governor of Carnation. The dam of this calf has 14,615# milk 4% test, 587# fat at 2 years on 2X. Her sire is "Very Good" and his tested daughters have records from 436# fat to 731# fat all on 2X and at 2 and 3 years of age. Both of her grand sires, Hallrose Progressor and Carnation O Boy are "Excellent," Gold Medal." Her granddams are full sisters with 1108# fat and 1030# fat, next dam has 1067# fat. This is Carnation's great Spofford family which is noted for their high production, good type, and long life. **This calf priced at $300 F.O.B. Elsie, Mich.**

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Services of—W. L. Baird—Arthur F. Bennett—James L. Gordon—Reynold Bennett at your disposition.

REGISTERED AND GRADE HOLSTEINS

from top purebred and high grade herds in ten counties—many artificially bred. We service over 700 of the better herds in Wisconsin. At the present time, we have over 100 purebred, registered cows and heifers due to freshen this spring or fall; also, a great many high grades. We specialize in truckloads or carloads.

TELL US YOUR WANTS AND WE WILL QUOTE PRICES.

REGISTERED HOLSTEINS

25 cows, all but three fall fresheners; 15 are 2-3 year olds, none over 6; 20 bred heifers, freshen starting August. All home-bred, production tested, pleasing type and size. Calfhood vaccinated. Cows mostly bred to son of Miss Paganok Gingerbread Betty, National Record Four Year Old with 29033 Milk, 4.4%, 1284 Fat, 2X. Heifers all bred to son of Paganok Mistress Jennifer, a ton cow with 25640 Milk, 3.95%, 1010 Fat, 2X, (8A). All are priced individually, cows starting at $400, heifers at $350, one or all. A foundation opportunity.

PAGANOK HOLSTEIN FARMS
Scott Meyer & Son *Phone 776* *Hannibal, Missouri*

CURTISS FOR PROFITABLE PRODUCTION CURTISS

Curtiss bulls are from Proven Families. Such as this Great cow and two of her many daughters. In picture, from left, Pansy's Patsy of Meadow Lane "E"; Patsy Jean of Meadow Lane "E" and Patsy Jane of Meadow Lane "E" '47. All were winners at leading fairs and all with great records, including 6 over 800 lbs. Fat.

Pansy's Patsy, who lived to be past 17 years and had 14 offspring, has two sons, Curtiss Candy Levity Curtiss and Butterfinger, and three grandsons in the present Curtiss Stud. Patsy Jean, now 14 years old and with over 800 lbs. Fat on 2x, has two sons, Major Curtiss and Jean's Curtiss and one grandson in the present stud. Of the 8 bulls from this outstanding family, 6 are plus-proved with daughters to over 700 Fat, actual, on 2x, and the other 2 have 7 daughters from 466 to 604 lbs. Fat, actual, as 2-yr. olds on 2x.

CURTISS OFFSPRING ARE IN DEMAND! In the recent sale of the Woosterdale Holstein Herd, Red Creek, New York, 14 Curtiss offspring sold for $10,450, an average of $746 per head. All were under 18 months of age. A 15-month old Curtiss daughter brought $1900; one only 1½ months old, $1,000. A 14-month old Curtiss bull calf, $1425.

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JAMESWAY "trim-line" styling gives milk handling a light-hearted lift with a new low 34" height. It's another bonus-extra added to these exclusive features:

- **Double Premium Cooling** — delivers 38° cooling in minutes. Assures low blend temperatures, never gives bacteria a chance.
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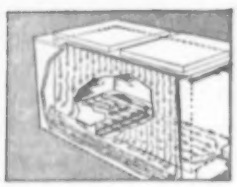
For complete details and information on Jamesway's easy ownership plan see your Jamesway dealer. For folder write: James Mfg. Co., Dept. HD-58, c/o you nearest division office. Ft. Atkinson, Wis., Lancaster, Pa., Los Angeles 63, Calif.

All of the water, over all of the ice, all of the time — exclusive Jamesway flow pattern.

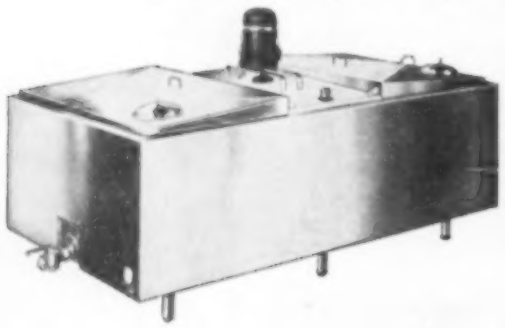


Fast-flowing, mountain cold water sweeps heat away from the sides and *bottom* for Double Premium cooling. Costs less to lower and maintain milk temperatures.

Sani-Kool's 2-way Temp Barrier keeps fiberglas exterior completely dry. No sweating or spotting. A swish of a cloth and it's inspection-clean.

Jamesway's new "trim-line" styling solves installation—so compact it slides through the milk-house door. No structural remodeling to run up cost.

Direct Expansion Cooler



Only 32" high for easy pouring, fast cleaning. All 18-8 non-magnetic stainless steel construction. Direct cooling with serpentine coils . . . fast, no condensation above the milk line. Greaseless nylon gear motor. Remote control panel or self-contained units. 160 to 500 gal. capacity.

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FIRST IN POWER CHORING®

FOR POULTRY • FOR DAIRY • FOR LIVESTOCK

VETERINARY COLUMN

E. A. WOELFFER, D.V.M.

White muscle disease

Affecting young animals from birth to about 4 months of age, white muscle disease occurs principally in lambs and calves. It may be seen almost any time of the year but mostly from early spring through May or before the pasture season starts.

Pregnant cows fed poor-quality roughage with little or no grain during the last two or three months before freshening, predisposes the occurrence of white muscle disease in calves.

The disease is more easily recognized in lambs than in calves. Early symptom is a slow-moving gait. The lamb hesitates to jump or step over small objects.

Gradually, the hind legs stiffen. When the lamb goes down, it often cannot get up without help. Some lambs stand with a typically arched back and, when urged, hesitate to move.

The final stages show a complete paralysis of all four legs followed by pneumonia or death. Some individuals get stiff and die suddenly; others drag themselves around, cough frequently, and often are found dead the next morning.

Symptoms of white muscle disease in calves are similar to those found in lambs. Calves often develop a severe edema (swelling) of the lungs. Usually the diaphragm and throat also are affected which makes breathing difficult.

On post-mortem the skeletal muscles of both the lambs and calves show degenerated changes. These changes are particularly noticeable in the muscles of the legs and heart. The surfaces of the muscles show whitish areas or streaks; hence, the name, white muscle disease.

Prevention and treatment . . .

White muscle disease is associated with either a deficiency or faulty metabolism of vitamin E. Usually the condition will not develop if during the last few months of gestation ewes and cows are provided with quality roughages, supplemented with grain when needed.

Where the disease is common, veterinarians recommend a vitamin E fortified ration to pregnant females prior to calving or lambing. Some ground wheat or 10 per cent wheat germ meal mixed in the grain ration often will prevent development of the condition.

The disease also can be prevented and successfully treated by injections of alpha tocopherol in either the pure or acetate forms.

MILKLESS SOWS

Would appreciate any information on sows losing their milk after farrowing. Apparently plenty milk at farrowing time but within 24 hours no milk. Appeared to be no mastitis or swelling in udder; and can appear in first or any number of litters.

Sows have free run of pasture. Have fed garbage, oats, barley, and minerals. Have taken them off the garbage before farrowing, and has not improved the situation.

Our local veterinarian has administered calcium on indications of milk fever. Has had good success to a limited degree with injections of P.O.P. (purified oxytocic principle). Our veterinarian has been very cooperative but feels his experience with pigs has been very limited.

Blaine, Washington R. S. I.

I did not feel qualified to answer your questions fully so wrote to a specialist and a research authority in the field. Am not sure we have much help for you. Nevertheless, here are some thoughts on the problem.

First of all, since milk was present following farrowing, it suggests that the condition is not genetic. Possible causes of the cessation of milk are a temporary physiological upset, mastitis, or metritis. Nutritional or micronutritional deficiences often are seen in garbage-fed sows. Sows fed garbage often show severe clinical anemia, which can lead to lactational deficiencies and failures. Pigs from such animals often are unthrifty.

Your veterinarian has been doing a good job, and has been using the products usually employed for sows which fail to produce milk. Recent work indicates that when tranquilizing drugs are used on sows, they act as hormones. Presumably, what happens is that they enhance the secretion of the known pituitary hormones present, particularly prolactin.

Occasionally the administration of prolactin along with the purified oxytocic principle is indicated.

AGE AND BREEDING

I have nine Guernsey heifers that I did not breed when they were 16 to 18 months old because I wanted them to freshen in the fall. When they were 20 to 24 months old, I wanted to breed them artificially but in a month's time only two came in heat.

In desperation, I turned the nine head in with the bull. He has rebred two which were artificially inseminated twice, and two others. The other five still have not come in heat. These heifers are beautiful animals, not overly fat but in good growing condition.

A neighbor tells me he had this same trouble when he allowed heifers to get this old before breeding, but our local veterinarians discount the possibility of age having anything to do with it. Have you any suggestions that might help me?

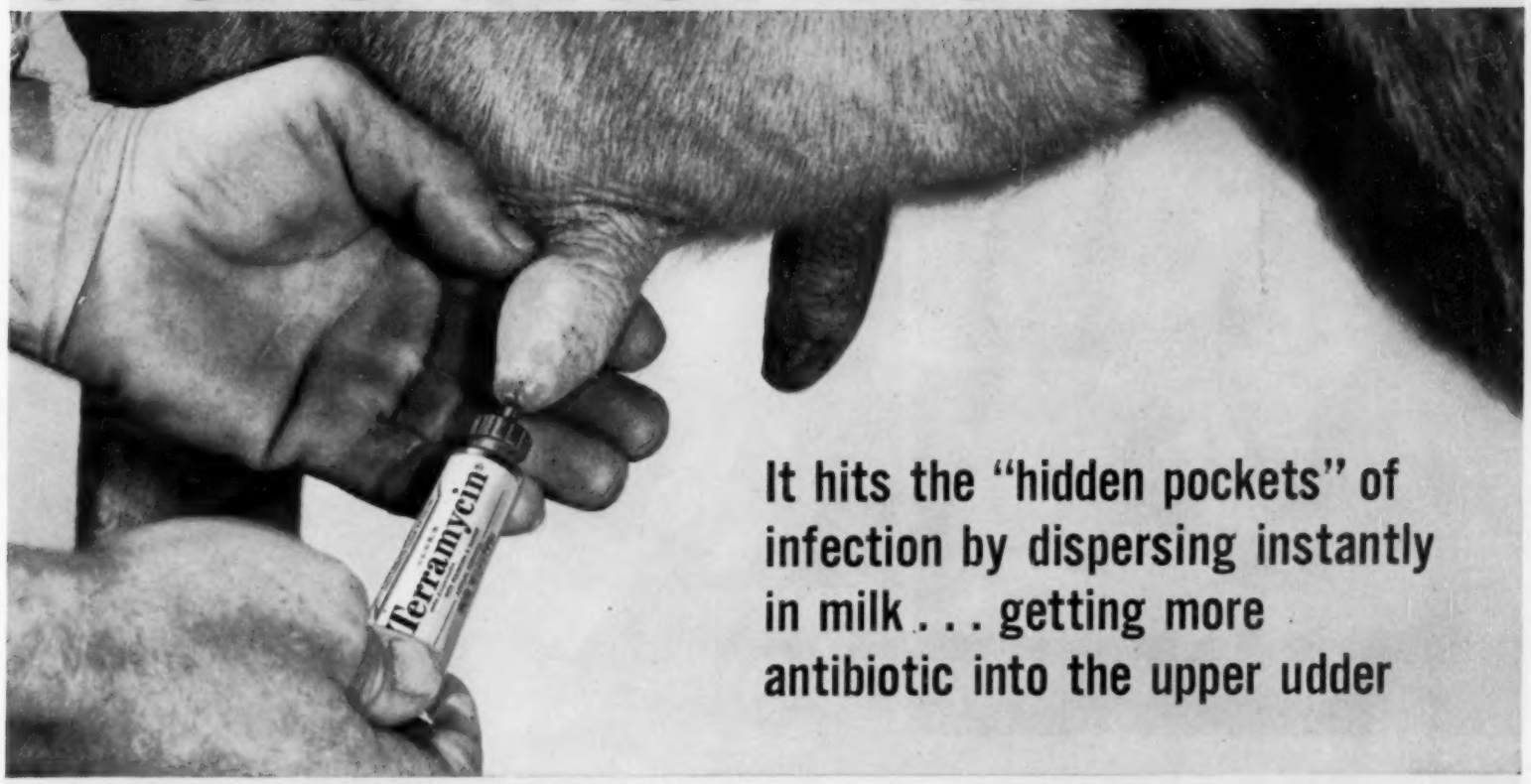
Corvallis, Montana G. G.

When a heifer is normal, age generally does not influence normal heat periods. On the other hand, heifers which exhibit early abnormal heats sometimes may be less normal as they grow older.

Older heifers have a tendency to accumulate extra tissue or fat in the region of the ovaries, and tend to develop a staleness of the reproductive tract even though the general condition of the animal is good. Daughters of some bulls and some female lines appear to be hard breeders, reasons for which have not been established.

We suggest you have your veterinarian examine the heifers for any abnormalities and for the purpose of bringing them into heat so they can be bred.

WHY TERRAMYCIN® STOPS MASTITIS FASTER


Terramycin
It hits the "hidden pockets" of infection by dispersing instantly in milk . . . getting more antibiotic into the upper udder

Give mastitis organisms a chance and they'll cut down a cow's productive ability by literally "eating away" at sensitive, sponge-like, milk-producing tissues in the udder.

That's why it's so important to stop mastitis fast—including any "hidden pockets" of infection.

Here's where new liquid Terramycin offers valuable help.

1. More antibiotic reaches the trouble spots. Liquid Terramycin instantly disperses in milk . . . gets up to 9 times more antibiotic into the upper third of the quarter.

2. Treats mastitis faster. Fast-dispersing Terramycin spreads out with the milk to the thousands of tiny sponge-like openings in the udder tissues—the hidden pockets in which mastitis germs can hide. Ordinary mastitis treatment, with massage, can be forced up into the cistern. But its grease-like antibiotic carrier can glob up, out of reach of many potential trouble spots.

3. More potent antibiotic action. Terramycin is a broad-spectrum antibiotic. This means it is more effective against a broader range of mastitis-causing organisms—giving you fast, dependable results, tube after tube, cow after cow.

This spring, when mastitis threatens, knock out trouble fast—before permanent damage can be done—by getting a supply of fast-acting, liquid Terramycin for Mastitis. More dairymen depend on it than any other mastitis treatment.

FREE handy tube-squeezer premium with every special-pack carton

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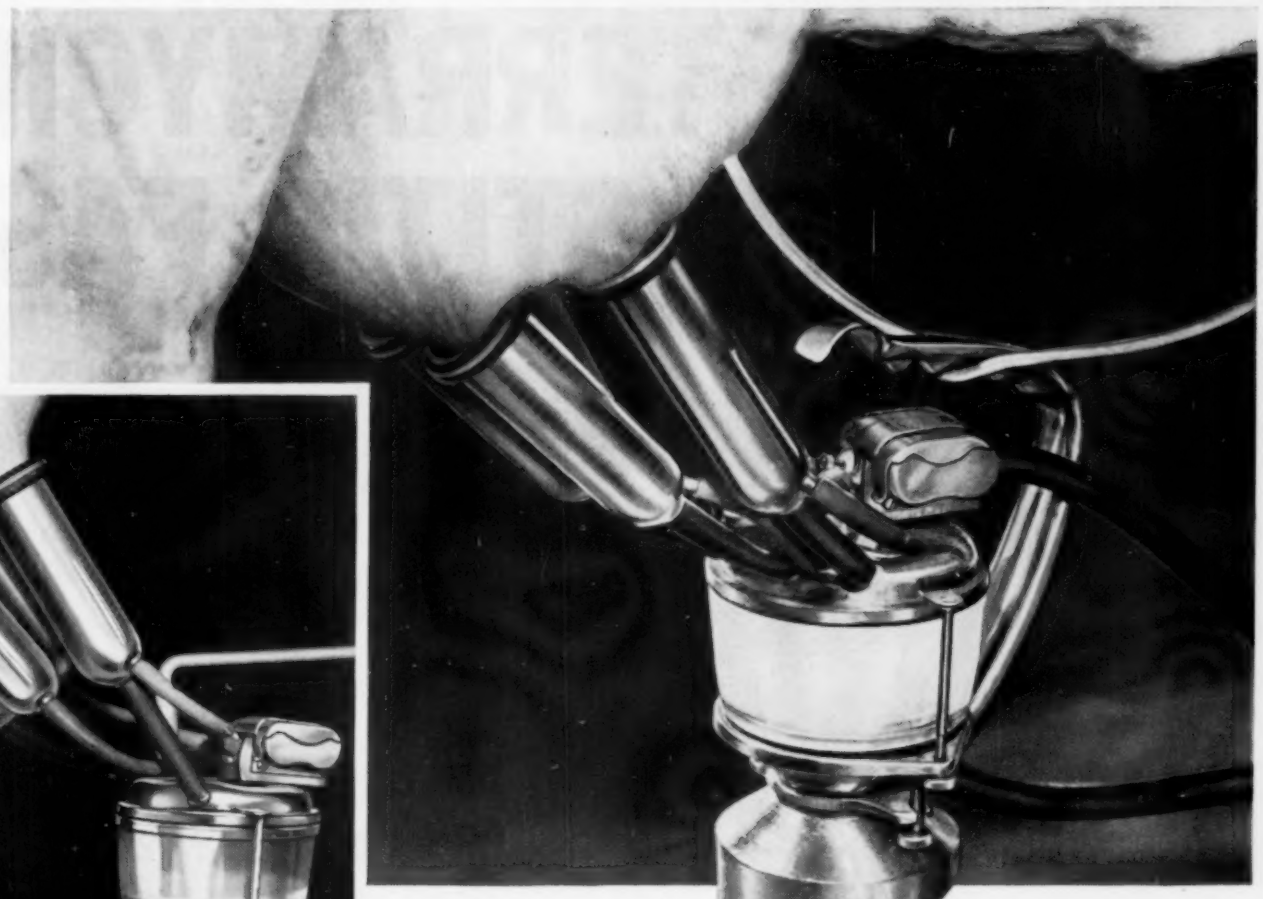

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After you are sure that you have the best cow milking that you can possibly buy and only after you are sure . . . then it is time to worry about milk handling.

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